

Sketching and visual perception in conceptual design:

**Case studies of novice and expert architecture students
(Annexes)**

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Sketching and visual perception in conceptual design:

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(Annexes)

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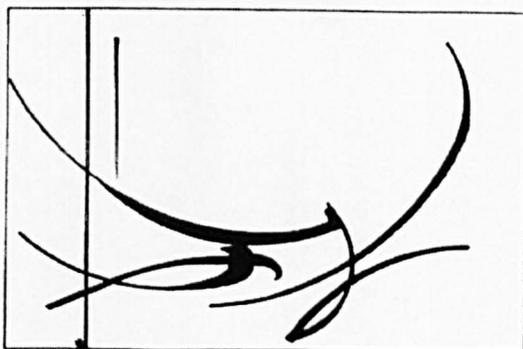
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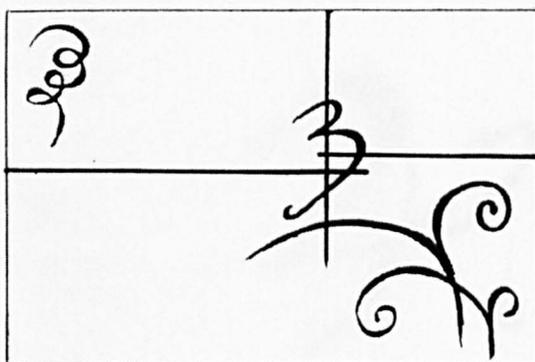
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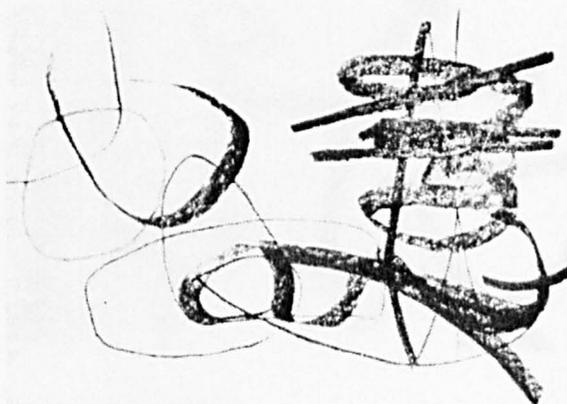
Non-Architectural sketches



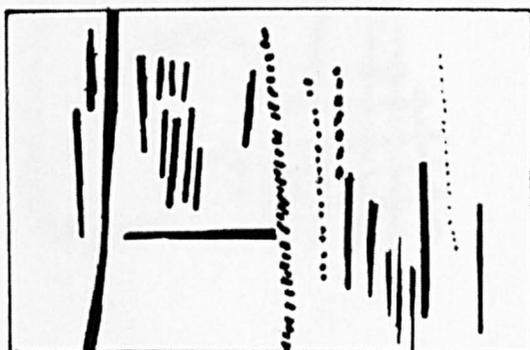
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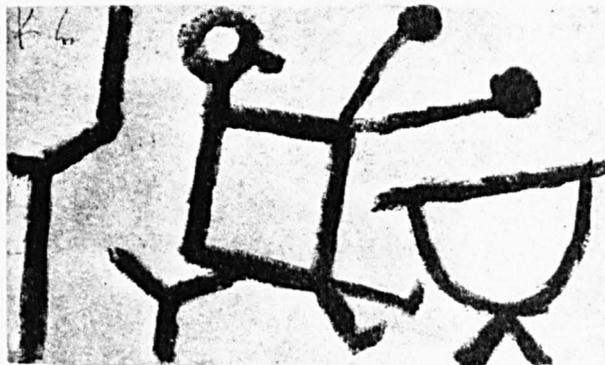
Pablo Picasso
Study for Les Demoiselles d'
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Modern Art:
Impressionism to Post-Modernism
David Britt 1975
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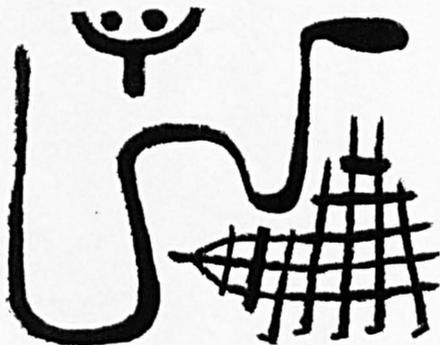
Jackson Pollock (1912-1956)

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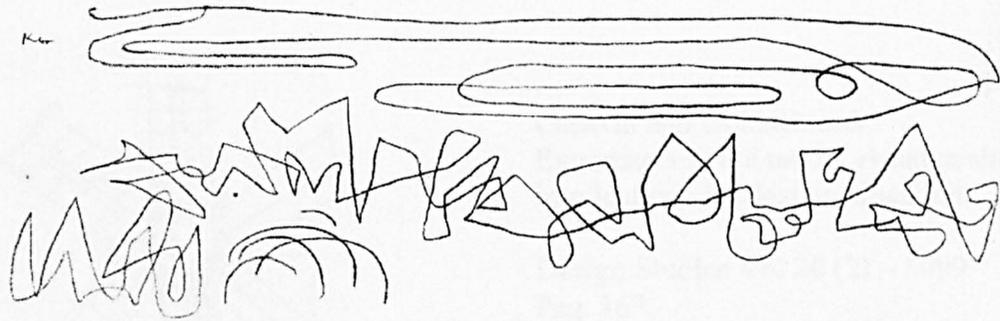
Paul Klee
Amateur Drummer -1940

Klee: A study of his life and work
G. Di San Lazzaro 1957
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Paul Klee
The Snake Goddess and her enemy -1940

Klee: A study of his life and work
G. Di San Lazzaro 1957
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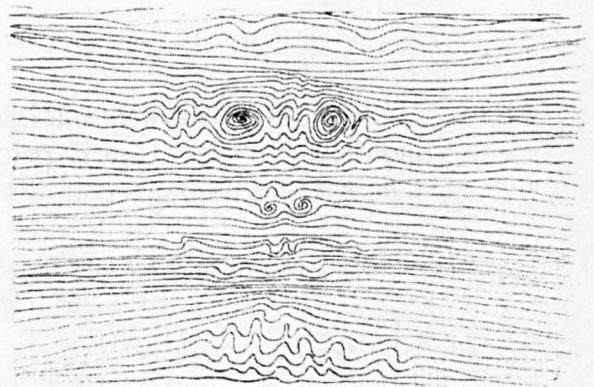
Paul Klee – Cloud above trees -1934

Klee: A study of his life and work – G. Di San Lazzaro 1957 – pag. 144



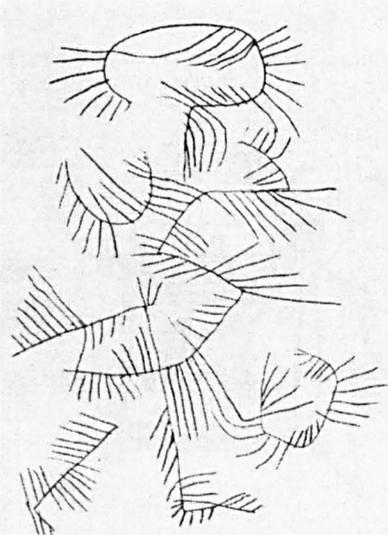
Paul Klee – Almost a figure - 1938

Klee: A study of his life and work
G. Di San Lazzaro 1957 – pag. 188



Paul Klee - Double Island -1939

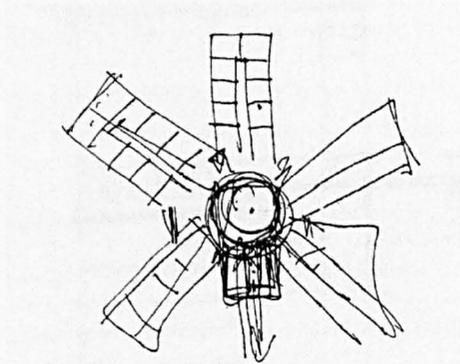
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Paul Klee – Game on the water -1935

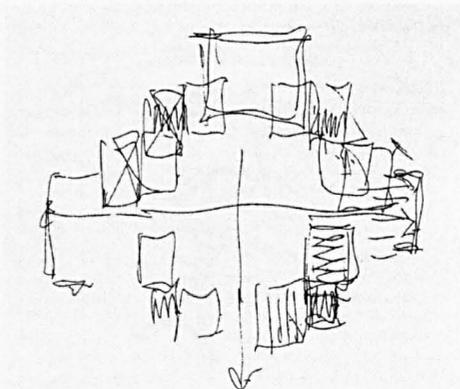
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Architectural sketches



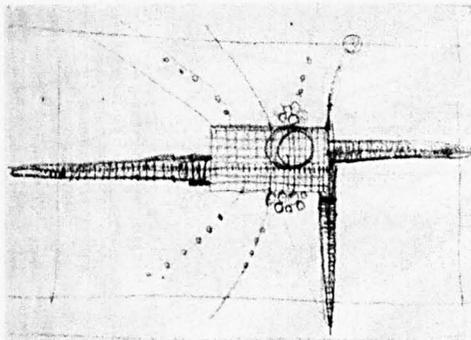
Casakin and Goldschmidt
Expertise and the use of visual analogy:
implications for design education.

Design Studies Vol 20 (2) – 1999
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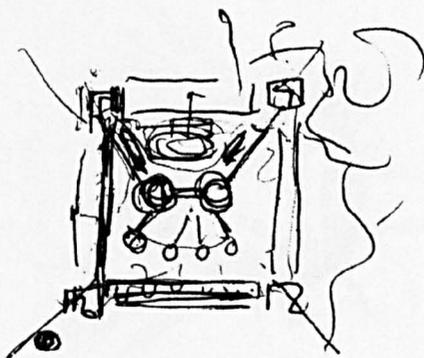


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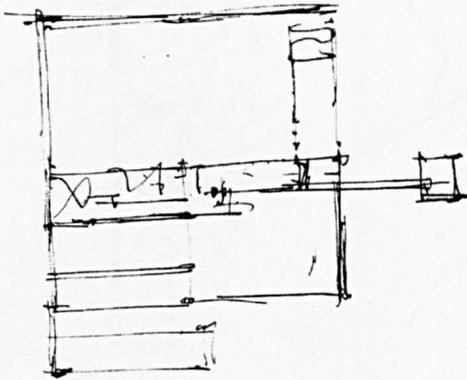


Ivan Leonidov: The complete works-1988
Andrei Leonidov and Andrei Gozak
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Louis Kahn
Concept Study, University of Virginia
Chemistry Building

Graphic Thinking for Architects and
Designers
Paul Laseau -1989
Pag. 106



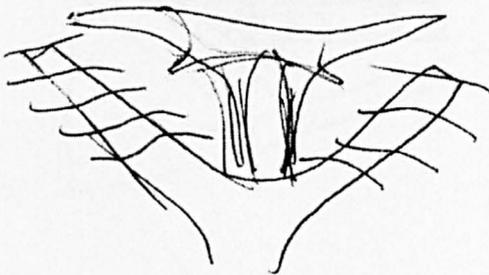
Mies van der Rohe
Hubbe House Studies
Floor plan 1935

The Mies van der Rohe Archive
Arthur Drexler - 1986 – Vol 4
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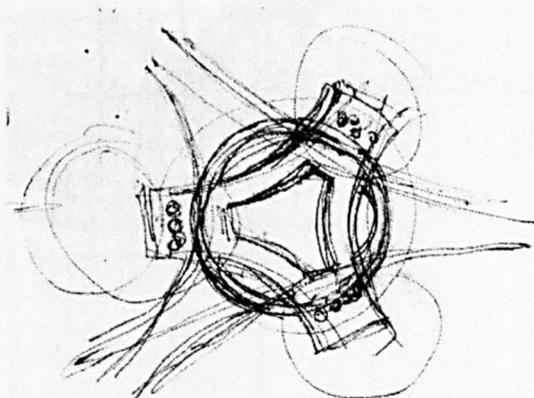
Paolo Soleri -1961
Theological Centre

The sketchbooks of Paolo Soleri 1971
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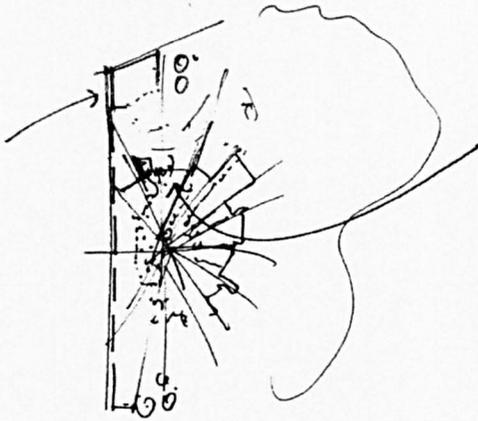
Paolo Soleri -1961
Villages

The sketchbooks of Paolo Soleri 1971
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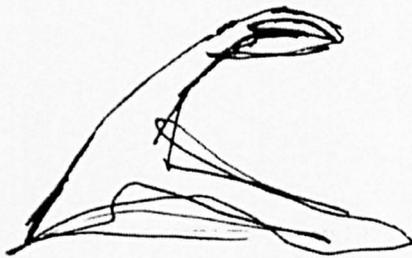
Paolo Soleri 1961
Airport

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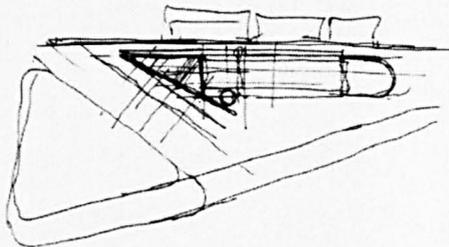
Renzo Piano
Banca Popolare di Lodi -1991

Renzo Piano Building Workshop
AU
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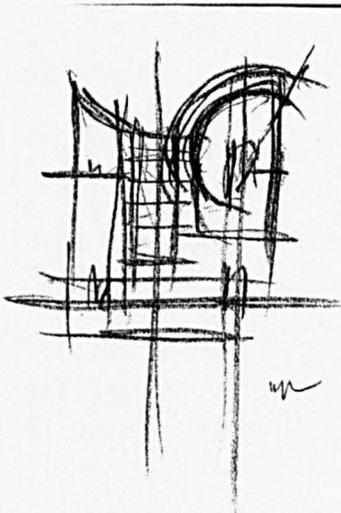
Terry Farrell

Sketchbook of Terry Farrell and Partners
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Mario Corea

Envisioning Architecture
Fraser and Henmi -1994
Pag. 119



William Pedersen -1987

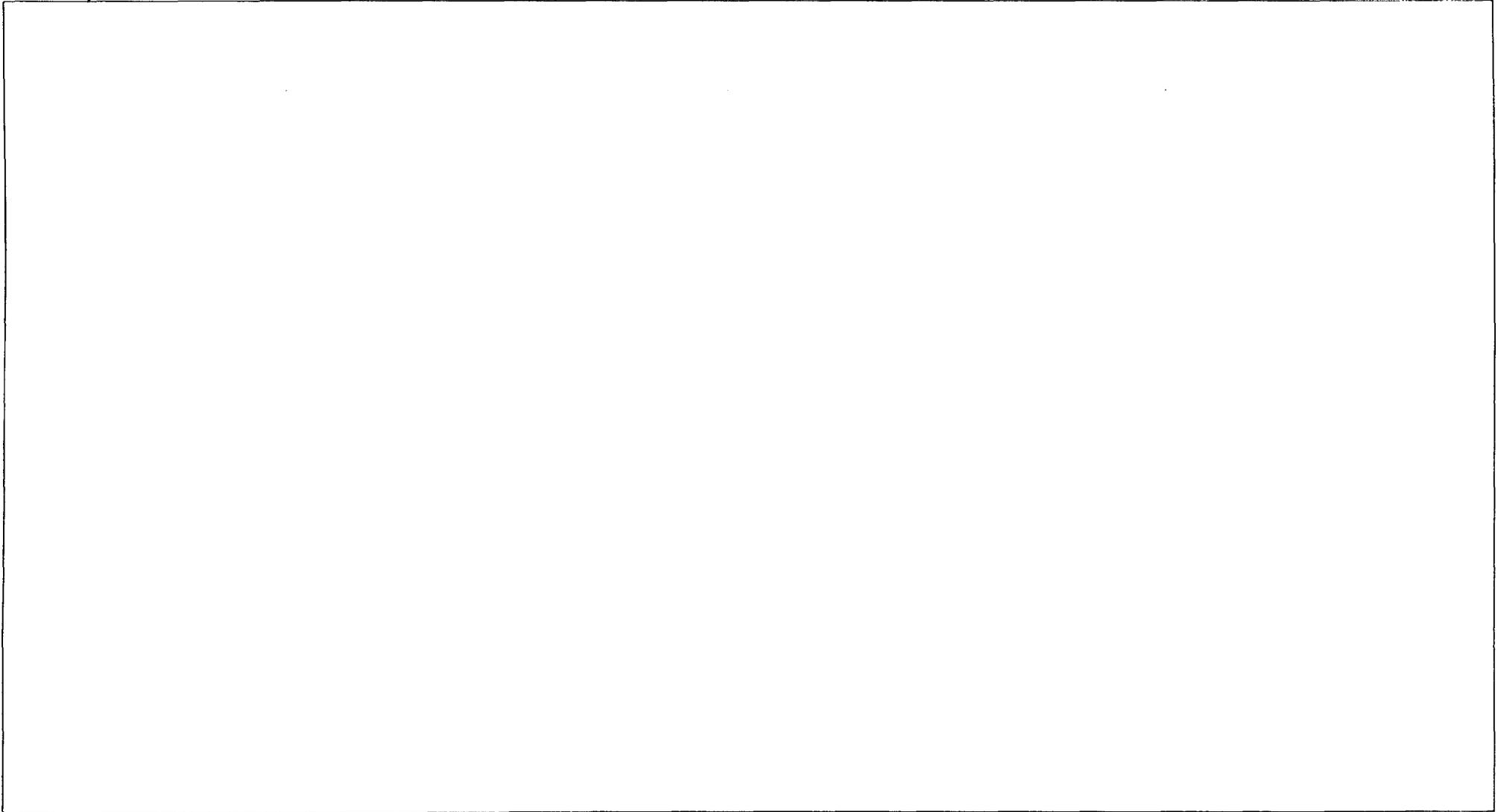
Why architects draw
Edward Robbins 1997
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Annex II

Material used during the experiment

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING

University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n°

Description n°

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING

University of Sheffield, School of Architecture – PhD Architecture – Alexandre Menezes – 2002

Name: _____ Age: _____
Profession: _____ Date: _____

EXPERIMENT N°: _____

Tick the right option bellow:

Subject A Subject B Architect Architecture Student (___ year) Non-architect

- **General Instructions:**

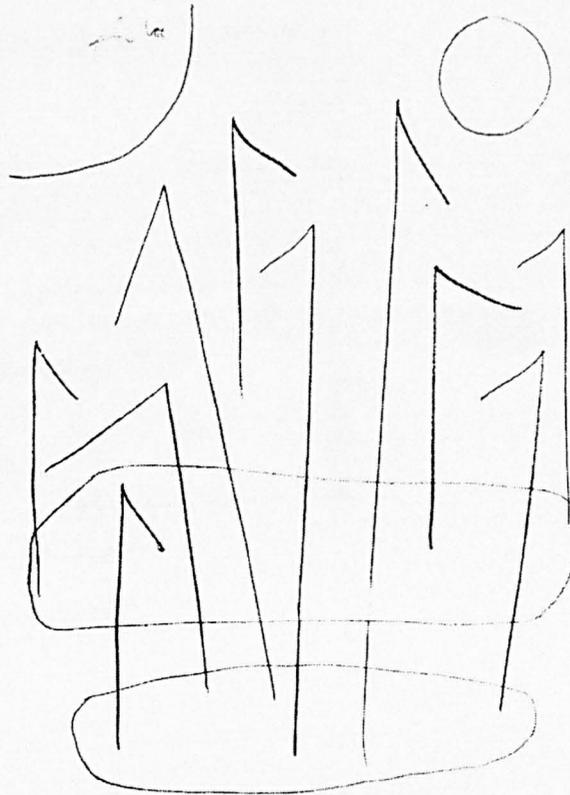
This is an experiment on Perceiving, Remembering and Describing. It will involve two subjects (Subject A and Subject B) and one experimenter. It is not a test and has no concern for right or wrong answers. You will be asked to use memory, creativity and analogies to describe (Subject A) and draw (Subject B) some abstract images. You cannot have visual communication during the task and cannot be interrupted by the experimenter. You have 10 minutes as time limit to conclude the task. The experiment will be recorder and at the end of the session you will be asked to review and talk about the experience, focusing in what you were thinking while describing and drawing.

- **Instructions to Subject A:**

You will be given a series of two cards attached with theses instructions. The cards have on them sketches, made by recognized architects and/or artists. Look at each sketch and describe to the Subject B what you see on it. Subject B has to draw what he understood from your description. He cannot ask you questions to clarify any doubt. You have 10 minutes as time limit to conclude each description and must feel free to do it in your own way. When you have finished your description, give it to the experimenter as a sign for the next one. After all verbal descriptions to subject B, please draw what you remember of each of the sketches, without looking at the images. Please, be sure to write the experiment's number and the description's order in your drawing.

- **Instructions to Subject B:**

You will listen Subject A describing a sketch and you must draw what you understand from it. You cannot ask questions to Subject A, at any time, to draw the image. You have 10 minutes as time limit to conclude each drawing and must feel free to do it in your own way. When you have finished the drawing, give it to the experimenter as a sign for the next one. Please, be sure to write the experiment's number and the description's order in your drawing.

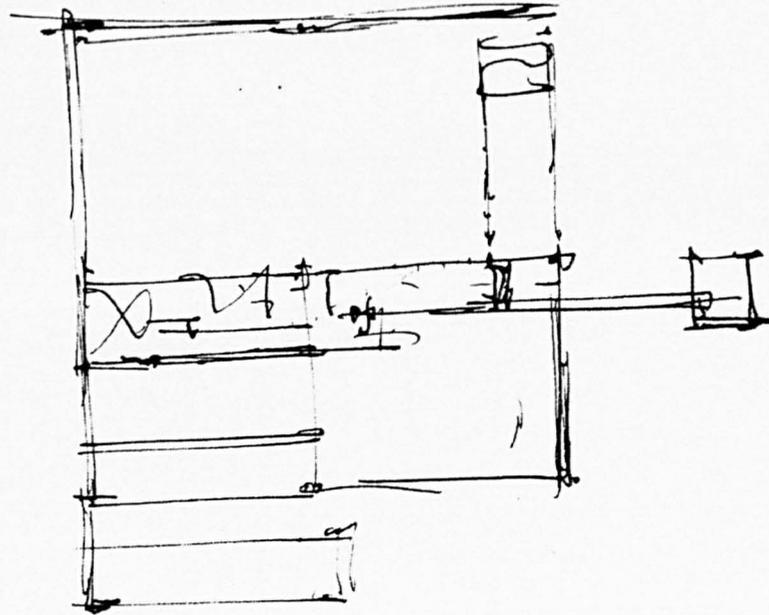


Experiment n° _____

Description n° _____

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING

University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° _____

Description n° _____

Annex III

Descriptions

1 - FIRST YEAR GROUP – SESSION 1

FIRST YEAR 1 - Description 01 (Non-architectural sketch)

Draw a sheet of A4, rectangular paper portrait format. Towards the bottom are two sausages, long ovals. One on top of each other with a gap between them. Top right corner is a circle top left corner a sort of a quarter of the circle, cutting the corner of the page. That's all. Coming up of the ovals are bars. Lines with half arrow on it. One is coming up outside of the upper right hand side of that oval with the left hand head, if you know what I mean. Like a seven, slightly on its side. This has a left hand head. Another, further along with head going to the right side. Along two-thirds the way across from the right the same thing, one in the side of other one. Backwards a seven again. There is another one on the bottom oval. Big one facing the other way. Two big ones next each other, about one third of way to the right. Another big one near to the circle. In the top right corner with left head. In the end of the ovals is a left hand one. A sort of half arrows with the left hand side of the arrows. It looks like a face, two eyes, two lips. I think, I hope. Like a flag or something, golf flag.

FIRST YEAR 1 - Description 02 (Architectural sketch)

A large square divided in half horizontally. Bottom section divided half again vertically. Left hand bottom small section is divided into thirds horizontally with double lines a few millimetres apart. Top third of that one has a sort of an eight on its side. There's a horizontal line third of the way up that top third. Then a squiggle above that line taking up most of the rest of it. A bit like the M missing leg on the left. The right hand bottom square about a quarter away from the top of it. That's a small rectangle about a ten the way. Gap on the left quarter gap on the right. That's a little sort of shaft running parallel outside of the rectangle sticking out of the whole square, out of the drawing. A little square on the end of it. In the top half of big square, on right, is another little rectangle. It's like a plan of a room, so looks like a bed. A little rectangle about a six of the way up vertical. The top of big square, through it, at the bottom of the picture there is another horizontal rectangle about the same... than... The half square at the bottom about a quarter of the high of the small square, below the big square attached very left, so parallel the left hand side of the big square. Two lines a little wall. I think. In the bottom left of the two small squares, into the big square divided into thirds, the line dividing between the top third and the middle third, horizontal line just out about third length of the big square. In the end of that there is a vertical line. Rectangle across, through that there is a horizontal line. Curve in the end up side down. On that left hand side of the cross, a little face. Two eyes and a nose a little moustache. It's like an umbrella handle just touching the middle line. Umbrella handle, a little face. There's a little, half way down big square on right, there's a tiny blob. Like D just attached on the side, running along with the line that divides it in half horizontally, little square. So that's a sketchy style, scribbled lines here and there.

FIRST YEAR 1 - Review

A - That looks like a room... more 'dramatical' shapes... easier to describe... I think.

B - Definitely easier to describe...

A - That one hard to describe, like sevens going up... You didn't...

B - I didn't understand it. Completely lost... I got the circle up there...

A - Looks like a face. Two eyes, two lips... I'd tried that

B – If able to ask questions would be much easier...

A – Trick to describe those vertical lines...

B – Has something about golf flags...

A – Like sevens...

A – That was easier to describe, measurable things, blocks...

B – That one had blocks and that lines, random lines from different places, really hard to fit them...

Non-Architectural sketch: Hard to describe. Like sevens going up. Trick to describe those vertical lines

Architectural sketch: Easier to describe: more dramatical shapes, measurable things, blocks.

2 - FIRST YEAR GROUP – SESSION 2

FIRST YEAR 2 - Description 01 (Architectural sketch)

It's a plan drawing. A rectangle to just start with. Draw a line S $\frac{1}{8}$ of the way down. Side to side, split it in half. Not long ways but width ways. Under the second half split rectangles into two squares and below that is another square that comes half way down from the second rectangle. It's really difficult...oh God. At the bottom of the square you just draw, extend the line across so it looks like another segment. Just like a rectangle. So it runs from one side to the other width ways. By doing that line, you have created another box effectively and now wants to split into thirds width ways across. Below the square you have just drawn and split in thirds, you need to draw two rectangles the same width and lengths as the third above it. Oh God. Draw a line out from one of the squares. Extending the perimeter of the rectangle. Subject B has asked to start again. Draw a rectangle. Split it in half width ways. You now have two rectangles. Bottom rectangle split into two squares length ways. You now have a rectangle split into thirds length ways. So you have three long rectangles. Put two more rectangles the same length and width as the ones above it. Subject B has asked to start again. Whole rectangle. Split it in half. Bottom rectangle split into two squares. Split one of the squares into thirds. So you've got three rectangles. Below that square are two more rectangles of the same width and length that fit into the square above it. So you now have three thirds in that square. Put two rectangles the same size directly below it. In the right hand square is a rectangle that's about a quarter of the length across. Oh God. You have your large rectangle and you have square on the right hand side. There is a smaller rectangle what is about a quarter width of the square and is about an eight ($\frac{1}{8}$) in from the left hand side and three eight ($\frac{3}{8}$) in from the right hand side. Oh God. From the bottom of the rectangle, a line extends beyond the width of the original rectangle. A small square is drawn at the end of that line. So a line ends in the middle of the little square that you had to draw. In the top rectangle that has no squares in, at the right hand side, running from top to bottom is a rectangle that begins a quarter of the way down and is an eight ($\frac{1}{8}$) of the width of the rectangle. Oh God. Have you drawn that rectangle? You got a main rectangle that has been split in half. You have a line extending from one end to the other. There are some squiggles along that line.

FIRST YEAR 2 - Description 02 (Non-Architectural sketch)

The paper is turned, so you have a A4 sheet of paper. So it long ways. At the bottom of the sheet draw an oval shape. As if you were drawing a pond on a plan. Coming out of that pond are six sticks. They extend up at different highs. Look like an upside down tick. They are six of those. Two or three centimetres above that, another pond shape

that's more oblong, slightly larger than the previously other one. Looks like pondweed growing from bottom pond and goes through one you've drawn above it. On the oblong pond you just drawn, you need three more of those ticks. About four centimetres above oblong pond is one tick on it's own. On top right hand side is a circle, like the sun shining down on the pondweed. At the left hand side is a quarter of the sun. That's it.

FIRST YEAR 2 - Review

A - I found this really difficult to describe. I don't know... the sort of lines it uses that confused myself. Got caught up in discussing thirds, half and quarter and where everything should be

B - (She could not relate to it) She didn't describe witch way round the paper was or how long the picture was and where it was positioned on the paper...

A - just went straight into the rectangular shape...

A - It was easier to describe... ponds... easier to associate with pictures, easier to describe... The other one was more like a plan... did you find that difficult?

B - I started with big rectangle. Had to do it smaller and then became very confused with squares and rectangles and witch rectangle she was talking about...

Non-Architectural sketch: Easier to describe. Easier to associate with pictures, pond, tick, sun

Architectural sketch: More difficult to describe. Half, third, quarter... confused myself

3 - FIRST YEAR GROUP – SESSION 3

FIRST YEAR 03 – Description 01 (Non-Architectural sketch)

A small circle on the right, top right corner. Slightly larger a kind of quarter circle, like a curve in the top left hand corner. A kind of rectangle, it's quite long and ... It's got a long side, it's horizontal. The horizontal quite long and the vertical line shorter. The rectangle is at the bottom of the page. Draw a large rectangle in the top end about that one. They don't overlap, by the way. Draw a one head arrow down the page in the middle, with the arrow pointing left. (Can repeat, sorry) Draw a vertical line down the page, from 1/3 page down and draw a vertical line in the middle the page. From the end of the line, not the bottom end but the top end of the line, draw a kind of arrow, but just one head of the arrow pointing left. Draw a long vertical line on the right hand side. A long one and then draw another head arrow point right (Oh God). Draw a shorter vertical on its right and then draw another arrow on its right. Draw two shorter vertical lines on its right hand side with the arrow point left. Draw a vertical line on the left hand side of the middle one and then draw another arrow on its right hand side. Draw a kind of vertical line, but not really, a kind of tilted. Draw right hand side and that one, that line is quite long and it's on the left hand side. Draw the arrow on its left hand side. Draw another kind of vertical line, but a shorter one on its left. Draw another shorter one vertical line on its left with the arrow pointing right. Draw another ...still length, kind of high up on its left and draw the arrow on its right hand. I think that's it.

FIRST 03 – Description 02 (Architectural sketch)

Draw a square on the paper but with some bit frame on its right side and bottom there, so you have space to draw another things there. (say again please) Draw a large square on the page, but with bit frame on its right side and bottom of the square, because there

is some others bit to draw there. Draw a rectangle. It's half the length of the square. It's below the square, kind of 1/3 down the square. It's a quite thin rectangle. One side of the rectangle is kind of connected to square, if you see... Draw a small square on the right hand side of the large one. Leave some gap between the large and the small square. Draw a horizontal line across the middle of the square. Draw a vertical line from the middle of horizontal line to the bottom of the square and it is on the middle. Now you got like a large square with two other little squares at the bottom. On the square on left hand side draw two horizontal lines. You got three equal rectangles. Draw a horizontal line from the middle of the square to the middle of the small square. Draw a vertical line from the right hand side of the large square down to the middle horizontal line of the large square. It is not in the middle, it's near the edge of the right hand side. (say again please) Just draw a vertical line. It's on the right hand side, actually in the square. Close to the right edge. (again please) Draw a vertical line from the top of the square down to the middle horizontal line. Draw a S shape, but a inverted S shape on the top of that line. You've got a kind of a thin rectangle on the right hand side. Draw a inverted S shape on the top of the rectangle. I think that's basically it.

FIRST YEAR 3 – Review

The students didn't point a harder or easier sketch to describe.

4 - FIRST YEAR GROUP – SESSION 4

FIRST YEAR 04 – Description 01 (Architectural sketch)

A plan of a room in L shape. A gap between the two alongators sides of got they. It is also a plan view. There is a long rectangular room within that plan. This is cute across, so you got two rectangles. About one sixth down from the rectangle one draw a gap which close through the square one. Then a *diving body* in your right. A typical *diving body*. A big body witch is on the top of it. It's also like a plan view.

FIRST YEAR 04 – Description 02 (Non-Architectural sketch)

On the top left corner is an arch and opposite that to your right of your paper in the corner is a circle small than that arch circle will be. Right down the bottom there is like a puddle, just an ellipse, oval shape thing. From there you've got a long straight line going right going towards the circle but not, is near the circle but not right attached to the circle and then to your right is an arrow not just at one side, and on your right, just draw it on your right not on your left so its like a hook or kind of thing and then draw the same thing in the middle from the oval thing going up but this time the arrow thing is on your left. Another of those lines, which point to the arch from the middle again of the old one. This time the arrow, well the half arrow thing is on your left again, so you've got like what looks like a hook. On the left of the oval you've got another of those straight lines, but they only go half way to the top and then your hook thing is on your right this time. Another one of that, the last one, should be at the edge of the paper so next one is close to the middle but not in the middle and not at the edge, the arrows is on your left, then on your right to the oval draw the same arrow going half way out straight to the top and like you've got the hook on your left. About 1 tenth up to the top arch and the circle looks like a trapezium but not like, rectangle but not like, trapezium. Like you've got curved, its like the oval but like a more rectangle actually, like draw an oval shape but more like a rectangle, like you've got four sides to it, and its like

miscued. On the left of this shape, draw one more straight line, like half way up again, then draw the hook on your right, and then on the right of this shape draw the same kind of shape, the same line and then your hook is on your left. Above the shape, not in the shape, above the shape, draw one more straight line so you've got an hook on your right this time so in totally you should have 10 of these hook things 6 of which starts from the oval. Three from the rectangle oval shape and then one above the rectangle oval. So it looks a bit like a face, like you've got an eye going like an arch and then you've got a circle and then you've got a hook thing and the oval is the mouth and the rectangle thing is the nose and you've got one circle as the eye and the arch like a bruised eye or something.

FIRST YEAR 4 - Review

Architectural sketch: it was very difficult...maybe I should have described it better.

5 - FIRST YEAR GROUP – SESSION 5

FIRST YEAR 05 – Description 01 (Non-Architectural sketch)

There are a lot of vertical lines and at the top of the vertical there is a diagonal line touching the top of the line. Like a flag. There is circle at top right hand corner and top left hand corner there is one fourth of the circle, like a sun you see in a little kids pictures. Just a circle, a quarter of the circle cutting one edge to other edge to the page. On the corner, left hand corner. Also there are a couple of ovals shapes, not really oval, but a kind of kids' oval shapes. There are two of them. One start on the bottom left hand side to right hand side. So there are oval shapes there. Above that there is another oval shape. Slight bigger. This oval shapes cut through the vertical lines. Don't think I can see anything else. A lot of vertical lines. Eleven vertical lines. Like flags on the top. Triangle flags on the top.

FIRST YEAR 05 – Description 02 (Architectural sketch)

This is a plan drawing. More like a plan sketch. Very massive. What you see is a big square. So draw a big square. You have a line cutting through the square, from the left side to the right side, horizontally on the middle. So you have two rectangular boxes. Box shapes now. On the top rectangle on the right side, touching the wall, you have a little bed. Looks like a bed. Is drawing in the short side of the rectangle. Just draw a little small bed. A plan drawing, so like study. Then from the middle of the square, the exact middle of the square, touching the line that cuts the square, draw a line downwards splitting the bottom rectangle into two squares. Then in the bottom left square draw two horizontal lines, splitting the bottom left hand square into three even rectangles. Same size rectangles. At the bottom of the left square, out side of the big square, out side, you have another rectangle, which the long part starts in the bottom of the left hand square to the right into the middle part the square, basically. It's parallel lines to the bottom side of the square, make the rectangle. So parallel to the square. In the middle of the box of the big square, just in the middle towards, a little bit towards the bottom the square, draw a sort of axes. Like maybe $\frac{3}{4}$ axes just across that area. Maybe some massive squiggles... I can't describe this. Then on the right side of the big square, a little bit under nit where split. Basically I'm talking about the bottom right hand square, you have two lines perpendicular to the right hand square extend out side of the square. Two lines, what ever you understand. You stop those lines maybe a

quarter of the total length of the side of the square. Quite short lines. Where exactly you finished those two lines just draw another square. Very small square. That's all. Too difficult, crazy.

FIRST YEAR 5 – Review

The students didn't point a harder or easier sketch to describe.

6 - FIRST YEAR GROUP – SESSION 6

FIRST YEAR 06 – Description 01 (Non-Architectural sketch)

I see two abstract organic shapes. Like ponds on the bottom of the drawing. The top one, the one which I'll describe this way is the larger and the one ... is the smaller one. They are sausages like shapes. The top of the picture there is one that is like the sun. It's a full boll and in the top left is one that looks like a larger sun, but it is cut out, you can see a quarter on the page. Coming up from the pond like shape are look like reeds. They also look like ticks up wards around. So is a long vertical section and a shorter section pointing to the ground. Like a triangle. There are ten of this. They are arranged. There are six in the small pond like shape. Three in the further away larger pond like shape and a couple more beyond that. They all vary in size and shape.

FIRST YEAR 06 – Description 02 (Architectural sketch)

This drawing looks like a very sketching plan of a building. The main body of that is a square object in plan. The out lines of the square, is a very rough sketch, like made in a hurry. There are all borders by double lines, the square. They not very meet. There is a very small square at the right hand side of this main large square body. It's approximately in the middle of the right hand side and in a small distance out. It's connected at the main large square by what look like a wall in plan. Double lines. There are some sketch details inside the large square. It's divided into two by one straight line. A horizontal line in the middle. In the left lower quadrant there is a small horizontal line. Two even in the space down of the bottom of the square. There are some 'un-referring' crosses, taxes, dots just under the central horizontal line. To the bottom of the square there is a rectangle which is longer that taller. It's in the side of left edge of the square. Just below.

FIRST YEAR 06 – Review

Non-Architectural sketch: Easier. Can related to some thing. Like a picture: sun, ponds...

Architectural sketch: Hard. No reference, no sense.

7 - FIRST YEAR GROUP – SESSION 7

FIRST YEAR 07 – Description 01 (Architectural sketch)

Basically this sketch is a plan of a room with several other rooms. A plan of a building, quite sketchy. Draw a rectangle long going across page. Have your page landscape? Draw about six or seven cm, just one line going across horizontally. That's the long side of the rectangle. The width the rectangle going down is about three and a half or four

cm. On the bottom right hand corner of that rectangle, draw another rectangle, which is like vertically up. Looks like a bed, a bed with the pillow. It's against the right hand wall, goes up about until half cm to the top. The bottom hand corner comes out a cm of the bed and goes up to half cm to the top and got a pillow included in that, which is about a cm deep. So the bed is a continuous rectangle one, vertical in the right hand side with a pillow. Just draw a bed as you imagine with a pillow. About a cm width and about three cm high. Stop just in the right hand corner, in the corner against the right wall. Then draw another rectangle below the one you got, the main one. The same again. So go down another three and a half cm and across the same distance again. So you now got double the square. Like two rectangles in the same, touching each other on the long side. Divide that rectangle in half vertically. So like in a middle vertically. Then divides the left hand section of that into thirds horizontally with two lines. So, then taking the right hand thing of that, it's like a square now. Extending the top of the thirds. You got the thirds in the left. Take the top of those two lines you drew in the middle. Extending about a cm into the square in the right side. They get up about half cm and they go across to the wall, to the right wall, horizontally. The same distance again, through the wall. So a line coming out through the wall. Then draw a square, about a cm square in the end of that line, outside the rectangle, the right side out of the two rectangles. Ok, almost finished. Then draw in that line, horizontal line that goes out, draw a little line about, should be about a half cm. Extend the bed down, like the bed sticking the wall. Just one line. Below the bottom of the whole drawing, take the left hand side of the large object. Extend line down about two cm. Then go across to the middle point, like level and go vertically to the bottom of that. Horizontally, so level in the middle. Level in the middle like you drew down in that rectangle above, about two and a half cm. Then go from that, go up, half cm and then back to the right hand side. So kind of a little rectangle, almost the same shape as bed you drew early, but the other way round at the bottom. That's it.

FIRST YEAR 07 – Description 02 (Non-Architectural sketch)

This is not a room. Is more like a golf wind or something. First of all draw a box about eight or ten cm across horizontally. Have you the page landscape again? Eight cm and then down about twelve cm. Make a rectangle like that, vertically up the rectangle. This is the frame of your picture. In the top right hand corner about half cm from each side, draw a circle like a sun, about a cm in diameter. In the top right hand corner of the rectangle you drew, draw a sun about one cm diameter and half cm in. Just a circle. Top left hand corner draw a quarter of a circle. Comes from the top. In the top left there is a quarter of a circle. This circle is about two cm in radius. So a quarter of circle there, in the top left hand corner. Then in the bottom of the rectangle, across the bottom, draw like a oval shape, landscape. Its width in the middle is about one and a half cm and goes almost the edge of each one. Like a golf wind looked out from distance, so like a ellipse. Above that draw another one. Goes even close to the edge of the rectangle and its got two cm high. It's more like a square, its got curved edges but it's more like a square with out corners. Now there are ten flags like that. The flags are drawn like just vertical lines. You know when you draw a properly number one. You draw a vertical line with a little dash in the top and a little dash in the bottom. Take the dash of the bottom and that what it looks like. Starts on the right, this is on the top ellipse. The higher ellipse, starting near the top right hand corner of that, goes up about three cm and the dash in the top goes diagonally down to the left. Next one starts on the top right hand of the bottom ellipse. So slightly inside that one, goes up slightly under the other one, about four cm and diagonally down to the left again the dash, and the dash is about

one cm long. Next is in the top ellipse again, is about one and a half cm in front the right hand side. Goes straight up about three cm and has a quite long dash to the right hand side this time. Next one is very long and right to the bottom, almost in the middle, slightly in the right middle of the bottom ellipse. Goes right up almost to the sun, like to the bottom of the sun. The dash goes down to the right, quite deep, almost touching the sun and goes up there. Just in the left of it, a cm right going straight to the sun. Move your pen, get your pen in the bottom where you just drew, about a cm to the left and draw another one about the same high, about one cm less and the dash goes to the left this time, diagonally down. The next one starts above the top ellipse, about a cm above the top ellipse and about a cm left the wind you did, and its only two and a half cm long and the dash goes to the right. So floating in the air. The next one is slanted slightly and starts almost the same point, like the last one in the bottom ellipse started. Slightly up and goes diagonally left about five or ten degrees or something, no much. Goes up almost touching the quarter circle and has one and a half cm or two cm dash going out to the left. Three more to go. The next one starts in the top early of the bottom ellipse. In the top of it about half cm left to the last one you drew, slightly a little bit but not quite much, a kind of converging on the other one. Doesn't touch it. It goes about three and a half cm down in the top ellipse but about one cm. Has a long dash about one and a half cm, quite to the left. Last in the bottom ellipse starts quite early in the edge of the bottom ellipse, in the middle. Goes up, not quite out of the top ellipse and has a dash diagonally to the right slightly. The last one is in the top ellipse, starting very close to the edge of it, about a mm of the left edge. Goes up vertically, not crossing that way but across, goes up about three cm and has a three or four cm dash to the right side. That's all.

FIRST YEAR 07 – Review

Non- Architectural sketch: Easy to describe but difficult to remember

Architectural sketch: hard to describe but easy to remember

8 - FIRST YEAR GROUP – SESSION 8

FIRST YEAR 08 – Description 01 (Non-Architectural sketch)

These are lines. It's an abstract picture. There is a circle, what I mean is an ellipse one and there are lines going upwards with arrows, half arrows on it. Above the ellipse there is a rectangular form, which edges are in a circular form. Also from this rectangular form there are lines with upwards arrows, half arrows on it. So in the top right hand corner there is a circle. Small circle. On the left hand corner I see just a curve flying, which comes from the top of the page to the left end of the page. A curve flying. Also those lines going upwards. Ten lines going upwards. Six lines are going upwards from the ellipse in the bottom. Three are going from the rectangular shape above the ellipse. Only one of those is off the rectangular shape, not included in the shape. That's all I see.

FIRST YEAR 08 – Description 02 (Architectural sketch)

It looks like a plan. Drawing in a square, a big square. From the bottom of this square there is a rectangle shape, which comes one end to the middle of the bottom line. It's like two cm. In the square, in the right bottom, to your upper line, I see a small square scratching. There is a line connecting the middle points of the sides, left and right sides. From this middle line, one cm down, another line. There is also in the middle lines a

rectangular shape going from the middle line towards two cm. In the right side of this big square, I see a line extending from the middle line two cm. In the end of it there is a little square, just like one cm side. From the square in the right end of the upper corner, I see a line extending to the middle line of the big square. I see some scribbles in those middle lines, with one cm in the middle. I see some sketching things inside, some lines. That's all I see.

FIRST YEAR 08 – Review

Both difficult. The students didn't point a harder or easier sketch to describe.

9 - FIRST YEAR GROUP – SESSION 9

FIRST YEAR 09 – Description 01 (Architectural sketch)

Start with a square. In the top right hand corner about three mm down, draw a rectangle going from the right hand side to the left making about a cm width and go down about half way the square. Draw a line from a horizontal angle, half way down the square. Divide the bottom half into half again but vertically. In the left hand bottom square you just made, divide it in thirds horizontally. In the very bottom of the main square you just drew, has a rectangle detached on the main square about half cm of the way. It's long rectangle going horizontally. In the bottom right hand square, in the main square, there is a small rectangle in the top of it. From that rectangle there is a line going out of the main square to the right and there is a small square attached on the end of that line. In the bottom left hand small square that you drew in the main one, the top rectangle, about half way down that one, there is a line going from the right hand side to the left hand side, half way across.

FIRST YEAR 09 – Description 02 (Non-Architectural sketch)

In the middle of the page towards the bottom draw a oval shape. It's quite long going horizontally. Above that, a little bit above that, draw a rectangle with rounded edges, but drawing horizontally. From the bottom oval shape there is a line going, there are a lot of lines but the first is on the right hand side and going vertically upwards. Draw it going and passing the rectangle over bit. The line goes back on itself diagonally a little bit towards the left. There is another one of those of the same shape going through the rectangle above, just underlining the line you just drew. To the left of that line there is another line, another shape like this one you just drew, but is a reflection. To the left of that one there is one going from the bottom oval and still a little ... the line you just drew and that one defect itself to the other line. The next one goes, it's just one more of those and goes back itself to the left. The next one starts higher than that rectangle with rounded edges and goes back itself to the right and it's shorter. The next one with slightly angle going to the bottom oval upwards and goes back itself to the left. The next one goes from the bottom oval also but not as high the last one you just drew and goes back itself to the left. One next that one, goes from the bottom oval. Goes and stop inside the rectangle with rounded edges and goes back to the right. The next one is just in the edge of the rectangle with the rounded edges and goes up. It's a short one and goes back itself to the right. Imagine if you do a rectangle around everything you drew. In the top right hand corner there is a small circle. In the top left hand corner there is a quarter of the circle drawn.

FIRST YEAR 09 – Review

Both quite hard to describe
Non-Architectural: easier one.

10 - FIRST YEAR GROUP – SESSION 10

FIRST YEAR 10 – Description 01 (Non-Architectural sketch)

Ok, so it's portrait. On the top right hand corner you need to draw a circle, which is about maybe five of this circle down the page, so a fifth of the page. So a circle like this. On the top left hand corner, you need to draw a quarter of the circle from one side the page to the top of the page and that needs to be a third of the page. At the bottom of the page it's an oval shape but it's not a perfect oval shape, looks like a pound. Even in the end of the oval it's slightly flatted, it's not a perfect shape. It's whole width the page. It's again a fifth of the proportion of the portrait, if it is a portrait. Above this is another oval shape but at the ends this is flatted at this time. It is an oval shape with flatted ends. At the top and the bottom it is flatted as well. So it's more like a rectangle with the rounded corners. Again it is whole width of the page and just slightly bigger than the last one, just our fifth of the high of the page. Working from left to right there is a series of straight lines. Much of them are pretty much vertical but there is a slightly angle on some of them. They look like arrows, as you draw an arrow. They all are pointing upwards but as you got one side of the arrow on them. So draw an arrow with two diagonals lines and one vertical line, as you got just one diagonal line of each line. The first one is on the left hand side of the page, starts about a third way up from the top. Draw a strait line there and the diagonal part of the arrow goes to the right. The second one is the same length but it is slightly close to the bottom of the page and again the diagonal line goes to the right. So the same length, close to the bottom of the page and the diagonal line goes to the right. The third one is slightly above the second one, also slightly longer and the diagonal line is also longer and goes to the left this time, goes up the top the second one. The forth one is same length of the ethers three plus half. So it's like 50% bigger and the diagonal arrow goes down to the left. The fifth one is the same size as the first three. This time it starts, the top of it is about a quarter of the way down the page and goes down about half way down the page, just half way down the page and the diagonal line is to the right. The six one starts from right in the bottom of the page, probably a couple cm up and goes right to the top third and should be in the middle of your portrait now. Should be half way across the page and the diagonal line goes to the right. Should said before that neither of these lines you're drawing now, cross each other but cross through the ovals you drew early. They don't interfere with any other stuff in the top of the page. The seventh one is slightly longer that one you first drew and I didn't tell you the arrow goes to the left in the last one, the diagonal line goes to the left. The seventh one is slightly longer that one you just drew, starts in the same stage at the bottom of the page and just goes a little further up at the level of the circle. The arrow goes down to the right this time. The eighth one is the same size as the first three again. It should be roughly enlarge then the first one, slightly above it maybe a fraction of that and the arrow goes to the right more horizontally, almost not angle, more horizontal. The ninth one became the same size as, no sorry, slightly bigger than those first three again and longer than the last one as well. It starts just a little bit higher up than the two longest you drew. Just longer than the first three, starts higher up than the two longest you drew. The diagonal line goes to the left. Finally the last one should be in the right hand side of the page, is the same size as the first three you drew again. It

should have about a third of the page above it and a third of the page below it, so should be a third of the page drawn in the middle. The diagonal line goes down to the left. On the top left hand corner where you drew that quarter of the circle, like a sun in the corner of the page, there is something that I can't see in the photocopy. If you go to the top right hand side of the quarter of circle you drew, there is a small triangle shape and it's not symmetric triangle, it's an asymmetric triangle and there is what looks like the word to but it's not. Now you should have a quarter of the circle in the top left hand side of the portrait page, a full circle in the top right hand side and this full circle is slightly smaller of this quarter of circle. From left to right you should have ten vertical lines. The first one should have the diagonal line to the right attached to it. So should the second, the third and the fourth go to the left. Fifth goes to the right. Sixth goes to the left. Seventh goes to the right. Eighth goes to the right. Ninth and tenth, both going to the left. At the base of the page you should have an oval shape slightly flattened on the horizontal lines.

FIRST YEAR 10 – Description 02 (Architectural sketch)

Put your page in landscape way. What we got here looks like an architectural drawing. It's a very sketchy drawing, probably towards by scanner. The lines have been drawing and redrawing again. The drawing is basically a box shape, almost square, slightly longer than its wide. Basically it's a box with another rectangle just below. At the right of this box there is another very small box. Now I'll try to describe it. If you draw in your landscape page one vertical line about half width in front the page and I want it about few mm long. One vertical line, you can make it a bit sketchy towards the top and the bottom. Not too sketchy. From the top of that line draw a horizontal line and this is slightly shorter than the last line. The same exactly line from the right end of that one. Draw another vertical line that starts to create a box. Then drawing the box. So you have a little tail hanging out from the bottom left and corner. That should be about a finger width, this little tail. Half way down this little tail, draw a horizontal line half way across the length of the box. Just one line ok? Now from the end of this tail, draw the same length one. Draw the two together with two lines on the end with about two little half. At the top right hand corner of the main square you drew, there is shape similar to the shape you drew to the bottom left of the square. It's vertical this time and it's in right hand corner. So you draw that similar shape half way down and it is a finger width. In the top right hand corner and it's vertical. On the top of this shape there is a sort of scribble S, a very, very flatted S shape. If you do that very, very flatted S starting from the left hand side and then goes round and again with another tail on the bottom. On the bottom left hand corner on your square, there is a similar shape that shape you drew below the box. It's the same high but slightly shorter, so doesn't quite half way across. So if you drew that, one is on the tail of your square and this is slightly shorter but the same width, inside the box. Above this, another box with the same length but 50% bigger, no 50% wide, I'm sorry. There is another of the same size, which should take half way up the page, sorry half way up your main square. It's also a horizontal line, which divides your square into two, right the way across it. It's the same width as the shape on your square. If you take that width, that below that horizontal line you should draw across the square. So it's the width of the shape of the tail of your square, down the horizontal line through the square. Half way through the square there is a line that comes from a quarter way through the square. On the right hand side a quarter way through the square, sorry three quarters way through the square. So it's all on the right hand side and it goes out about half the width of the square. So just one line goes inside the square to out side the square. So the line is half-length of the square and goes from

three quarters of way through the square to about half way out. On the end of this line there is square, which is about a cm square. About a cm square. You should have three rectangles on the bottom left hand corner of your big square. In the top rectangle, on the left hand side of it, has been drawing like an X. There is an X. On the right hand side of the X is a drawing that what had been very quickly. Just to the right of this there is a Z, but the Z has been drawing on its side. So looks like a back-front N, if you know what I mean. If you turn the page portrait, it looks like a Z. The very top line of this main square is the most sketchy line of all drawing. Quite sketchy, it's a pen drawing but still quite sketchy. The right hand side of this square, at the bottom, half way up from half way down to the bottom, at the right hand side of the square, it's all quite sketchy. From this horizontal line you drew half way through the square there is a rectangle slightly, not as wide as the rectangle hanging down at the bottom of your square. It is also not as long, so you leave half cm from the middle and about one cm from the right hand side of yours square and just hanging down from that horizontal line.

FIRST YEAR 10 – Review

Non-Architectural: Hard. I've got confused with the proportions.

11 - FIRST YEAR GROUP – SESSION 11

FIRST YEAR 11 – Description 01 (Architectural)

A plan of a house. A plan floor. Basically a square in the middle of the page, about ten cm by ten cm. Horizontally through the mid point of that line, so half the square along the middle, two rectangles in the square. In the bottom half of it, divide again vertically, so you have two small squares. So you got a big square slightly divided up into one big rectangle and two squares. Below the left, the little square outside of the big square, you've got a small rectangle room, which is about six cm long, a bit longer of the width of the small square. That's about one cm deep. It's very sketchy, so the underline has several lines on it. Now you should have a big square divided up into one rectangle and two small squares and a kind of small rectangle underneath the left hand of the big square. And that left hand of the square, it's also divided into three horizontally with two lines, horizontally in that space. So it's divided into three little rectangles. In the top little rectangle, that's where I'm describing, there are a kind of crosses and little sketches. You can do whatever you like it. Now in the big rectangle at the top, that's part of the big square, in the right hand side of it, there is like a bed structure about one cm width and it's kind of stuck on the right, kind of wall. It's a maybe vertical line and then a small room on the top of it, like a pillow over here. Maybe it's not a bed really. That's in the top of the rectangle, about one cm width and goes all the way follow the length of that big rectangle. The last is coming up from the right square, the small square in the big square. There is a line out, sticking the big square. A couple of lines with about one mm long, sticking out horizontally about three cm again and that's one cm down from the middle line that cuts up the big square. Two cm along there is little, little square that is going attached on the sticking out line and it's about one cm by one cm. In summary, what looks like a big square divided into two horizontally and then divided vertically the bottom half. The left square has got a lot of scribbles on it, is in the top third of it. It's divided into three. Below that is a kind of rectangle that is width of the square. The right hand space there is the thing that is coming out of it to the right with a little square on it. On the top rectangle you got that bed thing. It is summarizing.

FIRST YEAR 11 – Description 02 (Non-Architectural)

What we have here is a sketch. I'll just describe it first before start doing anything else. It looks a bit like two lakes with a sort of funny trees coming out of it and a sun on the top and a sort of arc on the left. It's like a sketch or what could be a illustration on sketchy. The basic shape is a rectangle that takes up middle of page. The rectangle width is about ten cm again, about around fifteen cm down and ten cm across. In the bottom of the picture you've got a kind of lakes, like oblong pounds. Just one line. Like the circle but that should be splashed. Like a pound. You got one and there is a big one above. If you draw those, then on the top of the picture, top right hand corner, you've got a sun. There is a circle that could be a sun, about two cm width. The lakes in, they stick up all the length of the rectangle but not touch the sides. They are about eight cm width. The bottom pound is slightly smaller than the top one. They are in third bottom half of rectangle. Now you should have just like two lakes like pounds and a circle at the top right hand. On the top left hand corner, about four cm away from the corner, you got an arc the circle but it is a quarter of the circle going across. How can I describe? Just cutting off the corner, like when you were kid and you draw the sun in the corner of the picture. It doesn't touch the sides of the rectangle, just a arc of circle. On the top of all it, you got a lot of vertical lines that come out from the two lakes. They are about ten vertical lines. They are not all complete, straight up and got a slightly angle. There are four going up from the bottom lake, no hang on, six going up from the bottom lake, three going up from the top lake and there is one going up but it doesn't connect with the top lake. It's hard than expected. They are different lengths but there are three in the middle that are longer. They don't pass the all length of the rectangle. One goes up to the middle point of the circle but in the left of the circle. Another one points towards the semi circle arc you drew. Those two start from the bottom lake. There is one between those two as well, but not as long as those two, about one cm less long. You got a forth one from the left to the right and with a tick a half of the rectangle. Each one of these has like a little one pointing to the other way. It's got a line in the top of them, like half of an arrow. There are half of them pointing one way and half pointing the other. There are about five of those, which have the top of it pointing to the left and five of them which top arrow pointing to the right. It's really hard to describe which one is pointing in which way. Let's try again from the left to right. The far left one is a short one from the top lake and it's pointing to the right. The next one along to the right is from the bottom lake and pointing to the right. The next one comes from the bottom lake and pointing to the left. The next one comes from the bottom lake and points up to the semi circle and points to the left. It's like one, draw a number one. The next one along to the right points to the right and quite at the top because it extends the most of the length. The next is a long one, points to the left and comes from the bottom lake. The next one along to the right goes to the bottom lake up to circle but doesn't touch it and that points to the right. The next points to the right and goes from the top lake. The next goes from the bottom lake and points to the left. The last one goes from the top lake and points to the left. I don't know if I can see any other thing.

FIRST YEAR 11 – Review

Non-Architectural sketch: Hard. More abstract

Architectural sketch: Easier. Geometric things.

12 - FIRST YEAR GROUP – SESSION 12

FIRST YEAR 12 – Description 01 (Non-Architectural)

We got a abstract piece of art, if you know what I mean. In the centre of the page, put in landscape form. In the centre is a rectangle in portrait, in the centre of the landscape page. But still off in the left hand corner by drawing a quarter of the circle facing towards the bottom right hand corner. Then about a inch and a half to the right of that, draw a full circle about one and a half cm in diameter. Then below that, two inches directly below the circle you just drew, of the quarter circle and the circle, draw again about two inches width and about a inch high. It's a sort of rectangle but with slightly curved edges. It's got a flat side on the top and bottom, but the side on the left and right is pretty much curved. Did you draw that? About half cm below what you just drew, draw an oval that is slightly lower than that one you just drew and again about three-quarters inch high. It looks like a golfing cream with half head on. Straight lines. You've got six of those coming out of the bottom oblong shape you did. You go to the left hand side of the oblong shape and draw a straight line up into the top of the shape above it. The half arrow facing towards the bottom right. I know that the arrows head going both sides but just draw one side of it. Do the same shape about the same size on the left hand side of the large shape on the top, hanging out towards the quarter circle. Next that, if you go to the middle of the bottom shape, draw two straight lines. One about four inches and one about three and a half inches, straight up. The long one goes to about the same high of the full circle you made. Basically on the middle of the bottom oblong. The one on the right has the half arrow facing to the right and one on the left has the half arrow facing to the left. In between the two lines you just drew, in between the left hand line and the first line that comes up from the bottom oblong, draw two lines going slightly inclined to the left. One is coming directly towards the quarter of the circle, which is about three inches long and the other is about one and a half inches going to the same direction. The arrowheads on this both face to the left and are about two cm long each. The one on the bottom is the most flat angle, probably about 30 degrees and the other one about 15 degrees. Then, the one you just drew hanging towards the quarter circle, the long one, if you draw between that one and the straight one that you drew on the left hand side. Two straight ones together, the left hand side of one of those and then one pointing towards the semi circle or the quarter of circle. About a cm above the top oblong, start drawing one and a half inches line with the arrowhead facing towards the right. You got three more of these kinds of half arrows to draw. Two in the right hand side of the top oblong. You draw about two inches arrow going up from the top right hand side of the top oblong with the arrowhead going left. Again in the bottom oblong, on the top right of it, do a two and a half inches arrow going up with the arrowhead facing towards the full circle. You got one more arrow to draw. That's between the arrow you just drew and the long straight arrow that you should have in the middle. That's in the top oblong, just on the centre of it. It's about one and a half inches long with quite large head facing the flat angle at the right. That's apparently all that is drawing.

FIRST YEAR 12 – Description 02 (Architectural)

This one looks like a plan view over a building, done kind rough lines. Again in the centre of the page, the whole thing is probably seven cm by nine cm. Basically a square. You draw a seven or eight cm square in the centre of the page. That's the out line for your drawing. If you go about four cm down, just half way down the square you just drew, then draw a parallel line across the page, going from the one side to the other. At the right hand side of your drawing, go from that line you just drew and go direct about

one cm away from the right hand edge. Go direct up from the line you just drew until it almost meets the top. It's quite rough. Between the side of this square and the line you just drew, do a S shape from about one cm high, touching the two lines each side. Then you should have like a blank bottom half on the square now. Go to the bottom left hand side and draw a guideline about half way across the square, straight down from the line you just drew, across straight down on the bottom of the square. Use that line as a guide. Just do about one cm up, except that two parallel lines about an mm apart. Across the line, going half width of the square up to the line you just drew, about one and a half cm or equidistance between the full line across the two parallel lines you just drew, do another set of two parallel lines but an mm across, an mm out to the same distance you did before. Now you got the square in the middle. Go to the bottom left hand corner and draw a line down about two cm. From that line go across to the same distance as the guide lines you drew. Should be half way across the big square. Then do another parallel line equidistant between the big square and the line you just drew, again the same length. Then parallel line between the two close the rectangle. Now between the top set of two parallel lines, between that and the line you drew across the square. I want you to do a ... it's the infinite sign or pretty much the sum sign. Basically it's a figure eight on its side with the left hand side missing. So you set two lines crossing each other. It's about one cm by one cm. If you go to the middle line you got on the right hand side of the square, drop about a half cm down, do a line from about three cm in, out of the square, about further three cm and do another line exact the same underneath that. In the end of that do a square about one cm by one cm. The line you just drew out, about one cm in, from the side of the square, doing the square you got in the big square. The top right hand side, you got that smaller rectangle with the S shape at the top, draw a line down from that to the line you just drew out of the big square. Do like two lines next each other about an mm high. In the middle section, where you got the half figure of an eight and square box with lines coming out, you do some rough scribbles. Do a couple of lines about three cm in distance along. In between these two lines, much towards the left hand side, about half way across, there is that looks an 'OL', an O and an L. Is right there in a small half cm high, writing in the middle of the square. The rest of it is just scribbles, probably indescribable. That's all.

FIRST YEAR 12 – Review

The students didn't point a harder or easier sketch to describe.

13 - FIRST YEAR GROUP – SESSION 13

FIRST YEAR 13 – Description 01 (Architectural sketch)

There is a box. Draw a box about 8cm per 8 cm. Draw a line horizontally through the middle from each side. Now is divided into two sections. In the lower section draw a vertical line, bottom section to bottom section. Three sections and two small ones. The left hand small one is divided into three equals parts with horizontal lines. Three horizontal rectangles boxes, add two in the end. So basically they add to the others two. Before they all, towards the box. On the top section now, on the big section on the box, on the right hand side, as you go horizontally line go a cm from the right and draw a line vertically down. On the top half basically. On the top right corner of the rectangle, of the box, draw a 'S', flat on the top of it. So it's basically the width of the little rectangle you just drew. It is your vertical rectangle with the S in. I told you to draw three rectangles in the small section, on the left. On the top rectangle, draw on left hand

side, a cross. A cross or something. In the middle of that rectangle draw a small 'H', in the middle. Basically as you look at it, the way you draw it, it's in your side, you got a sort of on it's side H. On the bottom right hand of the H, continuing to the middle point on the line. In the top right of this little rectangle, draw a back to back form N. There are four rectangles. The box next to it. Basically the box divided into four parts. On the bottom right part of it, draw a rectangle, on the top. Starts a rectangle, the top left corner of the rectangle in the top left corner of the box and draw around about one cm down and two-thirds the way along. Started just in front left, in the top left hand corner, start a bit along. As you did with the H, continue the bottom right part of the rectangle, so the bottom-line. Just draw and keep going and extend out of the main box about three cm. Where the line ends use that as the middle point of the box and draw one cm square around that tip basically. They go to the polo five rectangles in the bottom left. Draw a line from the bottom right corner of the rectangle, horizontally along to third way in the next box. So next to that box in the bottom right corner, draw this line about a third way to it and join that line up with the rectangle you drew in that box. It's basically a T, like a T-junction or something. Draw the tiniest, tiniest A and on the border of that. So draw in the top of horizontal line. Mark out a right angle with a square in the corner. In the right hand corner, the right hand side of it draw a little, not exactly. Extend the left hand side of it.

FIRST YEAR 13 – Description 02 (Non-Architectural sketch)

Actually draw a box, a rectangle about six cm per six cm. Don't actually draw it, mark it. Just imagine it. In that rectangle, on the top left hand corner, draw a quarter of the circle. Basically a quarter of the circle. On the top right hand corner just away from the corner, just away from the edges, draw a circle. Small circle about by one and a half cm in diameter. In the bottom of this imagined rectangle, in the bottom, draw like a oblong, not properly a oblong, just bit rough. Not quite touching the edge of this imagined rectangle, just away from it. Just above that, there is basically a square with rounded edges. Also just above the oblong, bit bigger than the oblong. There are basically ten up side down arrows shapes or something. In the left hand side of the rectangle with curve edges, this one you just drew, draw a line about three cm, 45 degrees from the top of it. Draw a line up three cm with another tick by 45 degrees from the vertical. Draw a line about a cm down. Just go down and right of it. Draw another one exactly the same shape. Basically they look like a up side down arrows. So get a arrow, turn it like mirror image in the horizontal, but the short bit of the arrow liked pushed it. That should like being drawing over the two shapes drawn in the bottom. The same shape arrow up. Put the corner in between the quarter circle and the circle. In between those too, the last two arrows you drew. Draw two in the gap between them, but they are twice the length and pointing in the other way. So the arrow is pointing in the other way. Just a bit longer. One of those just the double the length. Draw in the middle of this imaginary rectangle a line, another arrow basically. It's going about from the middle of the bottom oblong, all way up to the bottom to the quarter circle. Draw the arrow pointing to the left. Just to the right of that, draw another arrow the same length, just take a bit higher in the top, about a cm up and out the arrow pointing to another way. Another one of them with the arrow pointing to the right. It's half the length the one you just drew. Starts in the middle of the rectangle. Half the length. It doesn't go half way up half way down. It's in the middle. You should be in the edge of the rectangle now, this imaginary rectangle. So just about a third way up from the bottom, draw another arrow the same shape that one in the start, pointing to the left. The last arrow just in the edge, is a vertical line, about one and a half cm, starting in the mid point and pointing left it's arrow. That's it.

FIRST YEAR 13 – Review

The students didn't point a harder or easier sketch to describe.

14 - FIRST YEAR GROUP – SESSION 14

FIRST YEAR 14 – Description 01 (Non-Architectural sketch)

You need to have the paper portrait. The drawing is portrait shape. In the top left hand corner there is a quarter of an arc domain from the centre and the corner and nearly half way across the top. Like a bit of the semi circle. Starts about two-fifths of the way across the top from the top left hand corner and then draw a quarter of the circle towards the left hand side. Then, after you done that, in the other corner, the other top corner, there is a small circle about the size of five p, about one cm from the top and just another cm from the right hand side. Then you go down to the bottom. Across the bottom you drew, about one cm from each side there's an irregular shape sausage. Above that, you draw another one slightly bigger and slightly more square. There is about, the bottom, about one cm width or kind and the top one nearly two cm. Then you're going to draw ten such of hooks and they're basically vertical, or not quite vertical line, they're slightly diagonal coming out of the sausages. There are six on the bottom one. One in the left-hand side end the richness almost to the top of the big sausage. Look like an up side down ticks. You need to do a line up and a line coming out to the right diagonally, just about one cm long. Next that, starting a bit higher, you draw another one, which comes out of the top of the big square and has a much long tick going to the left, up to two cm. A cm along from that, in the small square, you do a much longer line, which is nearly to the semi circle you done in the top corner. It's a little bit diagonally. It's about eleven o'clock. You draw a line down from that to the left, about two cm long to make another tick. Right in the centre of the small sausage there's a long vertical line, which is about two-thirds of the page with a small tick to the left. Another cm along from that, in the small sausage, there's another almost parallel line, which is, goes past about nearly to the centre of the small circle on the right, but it's to the left of that circle and has a tick to the right about one and a half cm long. The last line in the small sausage, starts right in the corner and goes about five cm long and has a tick to the left about one cm long. Now you got four more ticks to draw. One starts right in the left hand side to the big sausage. It's about three and a half cm long and has one cm tick going down on the right hand side. There is another one in the left hand, or right hand corner of the big sausage, right on the top. It's four cm long and has a little tick to the left. Then you got two more. One comes, remember the big line you drew in the middle and the line going to the semi circle? It comes around between them. Starts about one cm above the big sausage about three cm long maybe four cm long and has a tick going to the right hand side with one cm long. The last one you have to draw is, if you came from the right hand side the lines, then there should be a gap where you drew a vertical line from the centre of the sausage going up about four cm long and has a tick one cm line to the right. It's done.

FIRST YEAR 14 – Description 02 (Architectural sketch)

This looks like a plan of a house. The lines are scratching massing as you got few times. First of all draw a big square in the centre of the page taking at almost of the page just leave a gap in the right hand side. When you have done that, the left hand vertical line

of the square, so the left side of the square continue the line down about two cm from that. And then, from the bottom of this, mark out the middle point of that little two cm line you just drew. So mark out one cm from that. Draw horizontal lines from the one cm and end of that line you drew. Go to the middle of the box, so parallel to the bottom of the box, going half way across the page. Draw another of those two little vertical lines. Starting at the bottom of the box, just a little bit to the left of those lines you just drew. No, no wait. Draw a line completely cutting the box in half horizontally. From that line to the bottom draw another line, which cuts it not quite in half but just bit to the left of the thing you just done. It should now be in quadrants. Should be in three squares of the box now. The bottom left hand square, you want to do two lines horizontally, so you cut that into three equal parts. When you've done that, as the two lines you just drew, the top one, you want to extend across the right hand side of the box, just about one cm. Do a little line up from that, not quite to the end of it, just a quarter way up to the middle line. Divide that line in half again by doing a little sort of quick line across that. In the bottom left hand box, divide into three. In the top section of that, in the left hand side, you want to do a cross, but when you're doing a cross, start at the top left hand line of the diagonals and then doing the cross taking a tenth of the paper. After you done that go to the right hand lower quadrant. From the little line you just did in the end of it and you cross in half, draw a horizontal line across, which extend three cm out of the box. On the end of that line, draw one cm cube but just crossing over that line. Draw another line on the top of the horizontal, three cm line just few mm above that. The top right hand of the box, about one cm in from the wall, draw a vertical line going down to the centre line. You should have such that thing. Start in the top of that new little box you just made. You want to wiggle across to the other side. Then go back across like a snake actually. More just go back three times. Go back to the cross you did in the lower left hand quadrant. Where the centre of the cross is, a little bit to the right of that, draw a line horizontally one cm long. From that line, a little bit to the end of it, do a vertical three mm long line. Draw a line from that, going through horizontally across to divide two boxes in half. Along the centre line you need to make a scribble. Starting half way across the lower left hand quadrant, along the centre line, you need to do a little tine A, such a summarise show. Then go from that horizontally down about two or three cm. It's quite complicated. From that vertical line and horizontal centre line, draw those two up to make triangle. Doing another vertical line down about one cm long and making a little triangle using that vertical line as hypotenuse should going diagonally up to the right and the horizontal goes across. In the right hand lower quadrant you got a line extending three cm out horizontally. Now go one cm into the box from that line. Draw three vertical lines from that central line. Make four marks just little marks on the central line, going towards the centre about five mm high each. In the big top section, to the left hand side, you need to draw two dots. One of them is practically on the centre of the whole box. They are about one cm each from the top. One of them is practically in the middle of the whole box and one is about seven mm to the left of that. I think it's pretty much done.

FIRST YEAR 14 – Review

The students didn't point a harder or easier sketch to describe.

15 - FIRST YEAR GROUP – SESSION 15

FIRST YEAR 15 – Description 01 (Architectural sketch)

It's a plan of a building. It's a square building. It's divided open to what looks like three rooms. There is a large room in the top, taking about half of the square. Along the right hand side there is a bed bench and in the top right hand corner of the square is like a cinco on a division on where is the bench. Bottom right hand is like another room but it is another shape. Like a square. The bottom left and right rooms are subdivided equally. The bottom left, it's got three horizontal divisions, so like beds, you know, like sleeping areas. On the right hand side of the large square that you drew first, is like a projection or bee sticking out in a very small square, about the size of a penny maybe. Once you finished the main square, on the bottom left there is another what looks like a bed structure, but it's not that drew in the large square. It's away from it. Only drew in the left hand side by one tine line. Back to the bottom left hand group. On the top of the three divisions made horizontally there is a X on the top left hand corner of that room. A scribble to the right of it. Going down the room, in the middle of that small division on the room, it's like a horizontal line as well. Back to the bottom right hand corner of the large square, so the bottom right hand corner of the room, there is like another bed bench along the topside of the room, about the similar size of the bed. Projection comes out of the large square the whole big thing is going to that.

FIRST YEAR 15 - Description 02 (Non-Architectural sketch)

It's a very abstract drawing. On the top right hand corner there is what looks like a sun. Just a round circle. On the top left hand corner there is a quarter of circumference of a circle, roughly about four times the size of the one you just drew. Below that there is what look like lines with another line in the end that is coming down about forty-five degrees from the top of that. There is what looks like maybe flags on the golfing, on the golf course. About a third way up of the picture there is like a large, it's not really circle, it's more like oblong with rounded corners. It looks like maybe a bunker, the same bunkers on the golf course. There are ten of this flags things. There is one on the far left hand side. Down bit another in left hand side. These all facing the same way. Close to the large circle, the quarter of the large circle, there is another one facing the same way. Third way across the page from your right hand side, there is another one facing the same way. Became right up to nearly the round circle. Then one next of that about half it's length, starting half of the page. So all these flags pointing to the right. Then you got the ones pointing to the left. There is one that is on extreme right of the page and it's pointing left and it's about the similar size as the one that is half the size, next to the circle. There is one just below that and that sit on a little sort of bunker. Another oblong with rounded corners but that is below and smaller that oblong. Right on the middle of the page, going about two-thirds up the page there is another of this flags going to the left. There is one right next that pointing towards the large circle, so the quarter of the circle. Also pointing to the left with angle about fifteen degrees. There is one next that. This one has a large tick on it, a large flag on it. There is right next to the one you just drew, but half it's length again and pointing the early edge, the left hand edge of the page. So these flags, they go up and across but they don't have the bottom part of them. You should have ten flags in total. Five pointing in one way and five pointing in the other way.

FIRST YEAR 15 - Review

Non-Architectural sketch: Easy too say where the things are on the page.

Architectural sketch: Difficult to describe

1 - DIPLOMA YEAR GROUP – SESSION 1

DIPLOMA YEAR 01 – Description 01 (Non-Architectural sketch)

It's an abstract image. Basically, at the bottom of A4 page, is a very basic kind of oval. There is little up side down ticks witch come up. In the top right hand corner is a circle like a sun. It looks like an abstract pot flowers... (Oh God!!). So you got a little oval at the bottom and then you got six up side down vertical ticks coming out of it, they go to about the middle of the page. These four up side down ticks, they actually come inside the circle. About the midway up of those ticks, there is a very crude square just been draw. Inside that square are three up side down ticks again. There is one at the far left hand corner that goes up about three cm. There is one in the far right hand corner of that square. That one goes up a bit higher . There is one on the left hand side of that. So, there are three up side down ticks in the middle circle. Towards the top of the page there is one tick witch is just in the middle of the page, and not growing on circle or square. Go to the top right hand corner of that page. Draw a circle like a sun. Sun is shinning down on the little vase of ticks. In the far top left hand corner you've got a semi-circle. When you look at your drawing, a very nice drawing you've done, look at the very far bottom of the page. Should be a rough oval circle...should be... rough. In side should be like little flowers in a pot of vase. There should be six ticks going across from one end to the other. Above that very roughly drawing square. These tall ticks should run through the middle of this square. There should be three upright ticks. Above it a little tick witch is outside that. Top right hand corner of this page, is a little sun. On left hand top half of page is a semi-circle, actually a quarter circle, sorry. That's it.

DIPLOMA YEAR 01 – Description 02 (Architectural sketch)

Basically a very roughly drawn floor plan... of kind... it's like a very rough sketch what you would find on tracing paper, witch is right at the beginning stages of design. Quite simple really. A large square to start. Just two lines through it, just to give an indication of thickness. Go to the bottom of the left hand square you have drawn. Draw a little rectangle witch runs from the left hand side. A bit of a gap between the two, from the left hand corner to the centre point of the square. Extend the wall of your square into the edge of the rectangle. You should have two shapes: a large square, on the bottom left there should be a little rectangle. The wall should run between the two of them on the left hand side of the square. What you must do now is mirror the top line of your rectangle to the bottom line of the square. From the centre point of the bottom line of the square, draw a line up to the middle of the square. Then draw a line across from centre point to centre point on the left hand side and right hand side of the square. So you have got the line going across. Next draw a little square box, towards the top right hand corner of the square. Leave a little gap between the right angle. Make sure it is separated. Move your pen to the mid-point of the left hand side of the square. Move it down a tiny bit to give it a little space. Draw a wall across, about a few centimetres do like a double line. At the end of the wall, draw another square. Just a small square, the same size as the one you just did earlier. Look quite estrange. There are a few odd squiggles in it. What you should have is a large square with a rectangle on the bottom left hand corner. Gap between the two objects. You should have a line going up from the middle point, bottom side of the square. Meeting another line running from left to right. A little box, top right corner, another little box like a satellite coming out of the right hand corner. Go to the square you should have on your top right hand corner, draw

a line from the right angle on the far bottom left hand side. Draw a little line down. Make sure it doesn't meet the mid-point line. Put a little arrow on the bottom of it.

DIPLOMA YEAR 01 – Review

A – Very difficult to describe, very trick to describe... sun... ticks

B – I think when you liking... Something like a sun you know how to draw. It's also difficult to know where to start drawing

A – Easier to describe the floor plan rather than the abstract image. Try describing like as we use CAD

B – I think describing the overall picture as in what the picture is about is very sketchy. Before you start describing what the actual contents are.

B – Getting the size of the drawing right is very difficult. Like how much of the paper you should be using.

A – First picture is like a portrait. I thought you would be drawing on A4, but didn't know how you would have your paper

Non-Architectural sketch: Very difficult to describe. Very trick... sun, ticks

Architectural sketch: Easier to describe the floor plan. Try describing like use CAD

2 - DIPLOMA YEAR GROUP – SESSION 2

DIPLOMA YEAR 02 – Description 01 (Architectural sketch)

A sketch line drawing. It could be a floor plan. Not quite sure, quite abstract. Basically is a square about 6 cm square on the page. To the right of that, coming out of the square is a pair of short lines with another square at the end of them. So it like a straw or a pipe coming out the side of that square into a very small square. It's about 8 mm square. On the bottom left of the square, there is a rectangle just below the large square. That rectangle is a half the width of the large square and again about 8 mm high. The large square is divided into two, with a horizontal line. So there is a top and bottom half. In the top half, it's mainly empty, apart from the right hand side where again there is a rectangle about 8 mm wide about half size of the large square. This time running vertically. The one to the bottom left of the large square is running horizontally. Ok? In the bottom half of the large square that is a sub divided again into two. So the large square is made up of a half and then 2/4 so it's made up as a rectangle and two smaller squares. In the bottom half of the bottom left hand side is then divided into three. Equal horizontal rectangles. This should be about the same size as the rectangle below the large square. Ok? In the bottom half of the large square, on the right hand side is a very small rectangle. This joins onto the pipe and small square. That's about 6 mm deep and runs horizontally. Not as long as half the square. That's it, I think. The large square looks as though it may have a double line on the outside. A sketchy outer line witch made me think of a wall. I'm not sure.

DIPLOMA YEAR 02 – Description 02 (Non-Architectural sketch)A

Abstract, obviously. Look like, a line drawing a T like Picasso would draw. Looks like, in an abstract way, a beach with trees in it. In a very abstract way. Starting at the top left hand corner there is a quarter circle takes across the top left hand corner. In top right hand corner of the drawing, witch is rough square. There is a circle about 9mm in diameter. Going to the bottom of the page, there are two turd shaped objects. The lower one is smaller than the upper one. Both of them are bellow the centre line of the

drawing. They are irregular squashed ellipses come rectangles. They both short of the width of the whole drawing. This is again about 6 cm across by about 8 cm high. It did look like an island and growing out of bottom turd are some vertical lines. They look like arrows with a arrow head only on one side. Some of the heads go to the right and some to the left. They're coming out of the bottom, they're six of different highs. Coming out of the upper turd, there are three at again different highs. The floating in the sky. fills up most of the page. At the beginning I said there was a quarter circle top left hand corner. There is a bit a scribble on that. Some sort of detail, just a tiny scribble line or two. Bit of shading. You should have a quadron top left, circle top right, two turds bottom half the page, lower one smaller than the upper one. Lot of arrows going up. The arrows head are about 8 mm. The vertical part because the arrows are pointing upwards. They vary in length to about 2,5 cm to 5 cm. Tallest lengths coming out of the bottom turd. That's all...

DIPLOMA YEAR 02 – Review

B – I thought, when I was drawing the first one, I became very distracted. I think it was because I missed the first instruction about the size of it. I tried to think back what he had said. Because I'd done the first bit I wasn't sure about it. This had an effect on the rest of it.

A – It was hard. I was trying to remember what I had already said. Trying not to leave anything out but truing not to make it even more confusing. If I could do it again I would make sure it was implanted in his head, exactly how big things were.

B – I did find with the second one that my partner would describe something and then later say: 'Oh yes, it's about 6 mm long...'

A – I found the second picture easier because it was more simple. The objects look like objects. Turd shaped...

B – Turd shaped is quite a good description

A – I can't remember if I said the upper one was slightly more rectangular, but you have draw it as that

B – The first one looks more sketchy, it looks a lot harder to describe. I would be able to describe the other one better than the sketch one.

A – It wasn't until I looked at it that I discovered I could find different ways to describe it. As I was going into it, I kept thinking... what is it? In some way I didn't notice it was a square, the4n half a square and a quarter of square. If I had said that at the beginning I could of used that as a reference. Then I could have fitted all the other bits in.

I remember at the end, describing this as a rectangle but looking at it now, it's not Rectangle. You could think of it as that piece there. I was trying to keep a mental map of what I'd said while I was describing it and that was getting confused....

B – I think if you had started off saying.... Dimension of the whole image.....where....dimensions...

(laughter)

Non-Architectural sketch: Easier to describe. Objects look like objects.

Architectural sketch: Hard to describe, more sketchy

3 - DIPLOMA YEAR GROUP – SESSION 3

DIPLOMA YEAR 03 – Description 01 (Non-Architectural sketch)

It's a line drawing on a blank background. If you could imagine a representation of a sun in the top right hand corner. Just a circle, plane sphere or a plane circle. On the top

left hand corner of the composition would be a kind of a quarter circle as if it had been cut of the rest by the boundaries of the picture. Lower down the picture there is an kind of ellipse shape. Above it would be a m... with kind of extends across the whole width of the portrait picture. Above that, going up to the half mark of the picture is a kind of oblong shape with rounded corners. Crossing between these two shapes are large, long, linear number 1's, shapes like number 1's without the bottom cross line. These run through the lower ellipse and the more oblong shape. These extend right up just below the circular kind of sun representation would be. These run in both directions. Some have the tick across with the number 1 running to the right., some to the left. In total there are ten of these shapes with are spread to fill all of the space. They have different length, some are shorter some are very long. Running the whole length of the composition. Some just between the ellipse and the oblong shape.

DIPLOMA YEAR 03 – Description 02 (Architectural sketch)

Again this is another line drawing. Resembles a kind of sketch for a plan. Kind of 'Bruno' Rectangular shapes. If we were to take a portrait perspective on this. Running the portrait of the page you would have a kind of wall formation. Just a thin extruded oblong. This would form the boundaries of a wall running from the left hand side the top would then be bounded by this wall structure. The rest of that would then be divided into a large rectangle shape, witch takes approximately off half of the composition. That would just be the boundaries by single line. If we were to take that rectangle shape and below it you would cut the remaining space in half with another single line. You would have two square shapes with would be created by that. The square shape on the left would be divided equally into 3 with double lines what could be walls. On the right hand square you have from the top of it a dividing line taking up ¼ of it running horizontally across. Then from the where that horizontal line cut the boundary of that square. Then becomes a double line equivalent to the wall, analogy that we used earlier. This extends out the width of that square where it terminates in a square 2 cm square attached to the end. In the left hand square described early, below that again about the equivalent of one of the divisions in three, you just got a long rectangular shape. It is just situated about few cm below the last division. Just a oblong extend a little bit early about the square. Go back to the large oblong in the top of the composition. You got a ... it divided that oblong into quarters. The right hand quarter could be defined by a single line, the rest could be left open. Then in the top of that quarter you just have a kind of sinuous S shape line. Just a mark up the top right hand corner, a kind of 'post stand'. In the left hand of the two squares, below there will be almost figure... about but rotate round 90 degrees. In the left hand... sort of that...there will be a kind of scribbles, a kind of M situated in the middle of that section of the oblong. Then, just have two parallels lines running through the middle of that oblong. Below that square you have, where the line divides that oblong into two squares formations, you'd have a little emphases where divided into 3, you got a little oblong. Could be like representing a plank, a plank in plan. I just try in this basis. That's it.

DIPLOMA YEAR 03 – Review

Non-Architectural sketch: Easy to remember what was there. Representing things: golf flags, sun

Architectural sketch: Hard to recall. Have any representation. A lot of small details.

4 - DIPLOMA YEAR GROUP – SESSION 4

DIPLOMA YEAR 04 – Description 01 (Architectural sketch)

I'm looking at something that looks like a plan. It's very rectilinear in the centre of the page. Possible, I say, about 12 cm x 12 cm. If you imagine a square, but don't draw a square. Draw the top line of the square and the left hand side of the square. So you got an inverted L. From the right hand end of the top line of the square, it's a corridor about a cm wide, comes down about half way of the right hand side of the square. From the left hand side there is an axis running horizontally across the page. Goes to the centre of the left hand side of the imagined square and it's about 14 cm. That terminates in a small square, which could represent a tower or something. If the square is split into quarters, it's not, but if it is split into quarters, the bottom left hand quarter is then subdivided into four bases below the axis, which runs across. So you have the inverted L with the corridor running from left to right and then up to close in a rectangle. The corridor beginning in the centre of left hand side, below that you have four bases which take about half of the width of the square to fill up the quarter. The central corridor terminates in a square, which could represent a tower. The bottom right hand corner is made up by double thickness lines which bring you up to the corridor and the single thickness line takes you across to the base on the bottom hand corner. Probably the better I can.

DIPLOMA YEAR 04 – Description 02 (Non-Architectural sketch)

It's a more abstract image. Again to the centre of the page. Think it's a sort of representing trees, possible. But the trees are drawn in a way it is... if you draw an arrow without taking your hand off the paper by drawing straight up and then down a short way at a 45 degrees. If you stop there without completing the arrow, that's the sort of way trees are represented. So bit like a 'barb' fishing hook or something like that. Straight line up and then straight line down around about 45 degrees. Some of these trees have the line on the right some of them the line is on the left. They vary in sizes. The tree is then set on two sort of circular elliptical shapes but not true ellipses but almost. Try to draw a square, sorry, a rectangle. Above these arrows there is a circle. The circle is drawn in the corner of the page. See a quarter of the circle. So you start with an elliptical shape, but not true ellipse but almost if it changes to a rectangle with round corners. It's about 5 or 6 cm across and 2 cm high. Above that there is a slightly larger rectilinear elliptical shape probably, and half bigger and 1,5 cm width and 1 cm taller than the previous one. Separated by just 1 cm. There are ten sort of trees or vertical elements. 5 with the arrows facing one way and 5 face other way. I have to go through one by one. The first one is drawn in the bottom ellipse over the left hand side, into the first ellipse. The straight line goes into the first ellipse and then it passes it and straight down to the right. The next one starts in the bottom ellipse and goes up through the second ellipse, above it about a cm and down to the left. The next is slightly slanted to the left, but again starts in the bottom ellipse, goes up through the second ellipse nearing to the left. Goes further beyond the last tree and down to the left. The next one is just the same but straighter and slightly shorter. The next one is taller, straighter and leans to the right. Just by the top of that one to the right and above it is the circle. The last tree element in the bottom ellipse is on right hand side and goes up about the same right as the second one that I described and down to the left. Then there are tree elements that start in the second elliptical shape above the first. The first is right over the left hand side and comes up about 3 or 4 cm and the arms to the right. Next tree element is about ¾ of the way towards the right. It's about the same size to the others again the arm to the right.

Final tree element in the second ellipse is right over the right hand boundary and again the top right boundary and the same size as the previous one but the arm to the left. Final tree element is above the second ellipse so touching any ellipse about the centre of the group horizontally. It is about the same size of the last tree group with arm to the right. Finally in the top left hand corner of the sketch there is a curve, which is almost a quarter of the circle that's been drawing off the page. So it's a quarter of the circle without ..., just peering the circumference line. It's the better.

DIPLOMA YEAR 04 – Review

Non-Architectural sketch: more abstract. Difficult

Architectural sketch: corridor...plan. Easy

During the review session, the students talked more about the architectural drawing, showing more familiarity.

5 - DIPLOMA YEAR GROUP – SESSION 5

DIPLOMA YEAR 05 – Description 01 (Non-Architectural sketch)

The image is black lines on white paper. It takes about 1/3 whole length full paper. Starts on the centre the same proportion as A1 but it tend portrait in the centre of the page. So start 1/3 size of the image. It doesn't have an out line but it compared a black line. A circle in the top right hand corner of the space. In the top left hand corner there's a semi circle. Then at the bottom there are two oblong circles one above the other taking the most space of the area originally described. There is one size on the bottom and other in the top. Oblongs going width ways and there are ten vertical lines that look like number one or number seven. Straight lines that come down about the top. That's all on this page. So basically composed: circle the top right hand, semi circle top left hand. Two oblong circles at the bottom. Several black lines in the centre. All right up with ticks on the top, like number ones. That's ok.

DIPLOMA YEAR 05 – Description 02 (architectural sketch)

It's about a square from the centre of the page again. Taking about half of format A4. Again it's black lines in white paper. It's quite architectural, it's quite sketch. This one is a quite large square in sketch format. Often the large square, draw a line going horizontally through the centre of it and then vertically through the centre of it goes down goes down, not in the top half. So you got like a rectangle in the top with two squares in the bottom. On the lower left hand side square draw another two horizontal lines dividing into three. This is also contained in the first large square. Again in the bottom left hand square you created in this large square. In the top third of that portion... .. draw a cross on the left hand side in that top third. A sketch cross. Look at the square as a whole again, look at the top right hand side of that square about a quarter of the way in, from the top line coming down, draw a vertical line down only at the half point of the square. Then two horizontal small lines in the top portion of the area you just mock off. Hard complicated, isn't it. Look back at the square as a whole. Draw a line coming out from just below the centre of the square, coming out of the square to your right hand side. So way right hand. So coming out to your right hand side, out of the page. There are two lines like a 'prouk' coming out of the square. At the end of it draw a small box, attached to the end. Go back at the large square as a whole. Go down to the bottom left hand corner of the square. The other side now. Just extend the left

wall of the square slight further down. Just make down bit longer and then draw a oblong coming out under the larger square. So almost the replicate the third you divided in the block of square originally. So it's a small portion coming out the bottom left hand side of the large square. On this is a oblong box. It's quite sketch, nothing is quite exact. I think it's the better.

DIPLOMA YEAR 05 – Review

Non-Architectural sketch: Easy to describe. Very simple picture

Architectural sketch: Hard to describe. Try to describe how to draw.

6 - DIPLOMA YEAR GROUP – SESSION 6

DIPLOMA YEAR 06 – Description 01 (Architectural sketch)

It's a architectural sketch. Looks like a plan. Basically a square in the middle of the page, about 10 cm on each side, with some division dividing into two rectangles. The division is going across the middle of the square horizontally. The lower rectangle is again subdivided into two squares with a vertical line. Basically it is the layout of the thing. About one cm down from that first horizontal division that you drew, there is a line sticking out the side of the rectangle, which is double line. So it's a cm down that line and sticks a cm into the rectangle and three cm out the rectangle. There is a little square in the end of that. Like a light spot. That little square is about one cm square. On the top half square, the top rectangle that hasn't be subdivided yet. There is a line down on side, a vertical line down on side dividing a one cm width stick, a vertical one, on the end of that rectangle inside the big square. Just to recap: In the big square, we have it divided into two long rectangles, top and bottom. We have a little fly what looks like a light spot in the bottom one. We have a little stick in the top one. The bottom of those two long rectangles is subdivided into two squares. The left hand of these two squares I just mentioned, is now divided into three with horizontal lines, so it's about...I don't know... equally divided into three horizontal divisions by two lines. If you can take two of those new long rectangles just created on those subdivisions, a little third basically draw two of those on the bottom of that square. So also sticking out of the big square. Going back again. Big square, subdivided into two long rectangles, top and bottom. On the top one you have a little stick on the side, on the right hand side. At the top of that, inside this little stick, there is something approaching vertically its relation pattern. A kind of pipe out about a cm. Going back again. Big square. Two horizontal rectangles. Left hand square of lower rectangle, the top corner of that little rectangle, its got a cross. A very quickly cross about a cm square on its left hand end. As a multiplication sign. Nothing too neat. A line going from there, horizontally from the right hand side of that cross, more or less to that subdivision that I mentioned, of these two rectangles on the bottom rectangle of the big square.

DIPLOMA YEAR 06 – Description 02 (Non-Architectural sketch)

It is more a tri-dimensional picture or what it seems. There is a rectangle which is just... it is not drawing but part of the print, sitting on middle of the page. It's a long line rectangle about ten cm width and about fifteen cm high. That is the frame of what you will draw. At the bottom of that rectangle there is some sort of... basically it is an oval shape but being flattening in this distinct hand drawing. Not really oval at all but more sausage. Above that there is a slightly fat of that. The first sausage is about two cm high

and stretch most of the width and it is centered. Most of the width of the rectangle. The second sausage is about three cm high, slightly longer and slightly square at the end. Top left hand corner of the rectangle we have a quarter of circle about two cm in radius. The quarter circle has a 90 degrees angle with the rectangle that you just drew. Opposite that, on the top right hand corner, we have a little circle about 1,5 cm in diameter, not radius but diameter. That sits basically opposite the quarter of circle, that quarter arc. Sticking out of this, if you think the two sausages, they look like tolls of water or something. So again tri-dimension on what you drew. Sticking out then, there are a lot of almost vertical lines. Out of the first sausage we have six lines. I should go from left to the right. Very equal stages across the vertical rectangle roughly. They still have different bits of depth of this part that is going back. The first one is a vertical line that starts near the left hand end of the sausage and goes up about 4 cm. The second one another cm longer and further back goes up 5 cm and sticks slightly up to the left. The next one again a cm far from that. Same position on the depth of the sausage, sticks out about 8 cm and slightly to the left. One after that is very close but is based towards the front of the sausage, goes up straight about 8 cm, so on the rectangle becomes lower than last line, because it's close to the front of the sausage. Next one along a cm, same depth in the sausage, up ten cm. That's coming just about the circle, which you drew at the top right hand corner of the rectangle. The last one is right on the right edge of sausage, slightly to the right with depth about 5 cm. Now on top of each of those, there is another line that's coming down about 45 degrees for about a cm. On the first, line is to the right. Second line is to the left. Third line is to the left. Fourth line to the left. Fifth line to the right. Sixth line to the left. That's the little line coming down. On the back sausage we have three of these vertical lines. The first one on the extreme left hand end towards the front of the depth of the sausage. This is about 4 cm, comes down to the right that 45 degrees line. The next one in this sausage is between, apparently between because of the perspective, is between the fifth and the sixth lines of the first sausage. Middle of that second sausage, up about 5cm, down to the right 45 degrees and one cm. At the very last one on the extreme right hand end of the sausage, towards the back of the depth of this second sausage, up about 5 cm and down 45 degrees one cm to the left. And finally between the third and fourth lines of the first sausage, we have another line, which doesn't have space in one of the sausages but is in fact in the background, a cm above the back sausage. Going straight up 4 cm, coming down to the right of that 45 degrees line, one cm down to right 45 degrees. I think that's it. Hang on. There is a little scribble on the top. That is silly. That's all.

DIPLOMA YEAR 06 – Review

Non-Architectural sketch: Easy. I know what sausage looks like.

7 - DIPLOMA YEAR GROUP – SESSION 7

DIPLOMA YEAR 07 – Description 01 (Non-Architectural sketch)

If you have your paper portrait, in the top right hand corner draw a circle. Top right. Then on the left hand corner, at the top, draw a kind of quarter of circle, but it is the bottom right of the circle. Do you see what I mean? Just like a arc or something. Right at the bottom of the page, if you imagine a kind of portrait format, I want you to draw a kind of long oval shape. It has rounded edges. Right across the bottom, like oblong shapes. This is all 2D by the way. After you done that I want you to draw a vertical line and there are six of these and they all coming out of this oblong shape. Draw a vertical

line up and them, it's like a up side down tick with a little stalk bit at the top. If you draw nine of them, it's kind a quite arbitrary here and there. All coming out of this oblong shape at the bottom. So there are nine of those. All different length. So near to the top circle, some half way, some in the middle. On the top oblong shape you drew, at the bottom there is another oblong shape a bit just above it. a little bit longer and a littler bit bigger. After you done that second oblong shape, there are three of those up side down ticks coming from it. One on the left and two on the right. After you done that, there is one more up side down tick. If you start in the middle of the page, right in the middle, just draw a up side down tick there. That's all on this drawing.

DIPLOMA YEAR 07 – Description 02 (Architectural sketch)

This is a lot different to the first one. Nothing rounded, all kind of plane shapes. If you just draw a big square, probably the size of A4 format, a bit A4 square. The bottom left corner of this square, I want you to draw a rectangle underneath it and half way of the square. If you not mean, the width is half the square and the deep of this extra rectangle at the bottom. It's only about an eight of one of the length of the square. So I want you to draw a line straight across the middle of square, so dividing it into two. Know the rectangle that you drew in the bottom left corner? If you rotated it 90 degrees, so you have a vertical rectangle. I want you to draw one at the top right of this square. On the right hand side of this square, of this big square, I want you to draw...not, ignore that. The line in the middle of the square that you drew, draw another line underneath it. The same width as the rectangle you've been drawing, so it's a double line, parallel line underneath that. After you done that, on the right hand side of the square, I want you to extend that second line, the one further down, extend that line by a third of the square. On the end of that extended line, I want you to draw another square, but this square is the same width as the rectangle, the short width of the rectangle. So you got like a big square with the line sticking out and a little square on the end of it, on the right hand side. What else is there? You know the right hand corner, right top corner of big square, there is a rectangle. At the top of the rectangle, inside the rectangle, there is a scribble. There is a S shape, a scribble, but is actually a reverse of a S shape. If you mirror a S, that is what you need to draw on the top of the rectangle. The top half corner, not the top, sorry. If you look at the left hand side of the big square, the line down there, just underneath the line you drew across the square, dividing into two, putting a cross just underneath that line, in between the two parallel lines on the left hand side. Just do it like a cross. If you look at the bottom half the square, ignore the second line you drew. If you divide the square into three, so the whole thing is in six divisions. Just look at the bottom left corner of those... I'll start again. You divide the square into half, the top half and the bottom half. The bottom half, divide again. So draw a line, so it becomes quarters. In the bottom left corner, you got a quarter of the square. Divide that into three, so you got one line there. Then draw a second line, so you got thirds now. Again it is all horizontal lines. I think it's about it.

DIPLOMA YEAR 07 – Review

Non-Architectural sketch: Much easier. Simple.

Architectural sketch: hard to describe

8 - DIPLOMA YEAR GROUP – SESSION 8

DIPLOMA YEAR 08 – Description 01 (Architectural sketch)

It's a free hand sketch. Looks like a plan. A square. Half way down the square look like a kind of corridor. With an extra square attached on the right. Above the corridor on the right, along the right hand side of the square there is a kind of section that is very small corridor with the length of the square. In the main square there are also another small rectangle which is to the bottom left hand, just off a little bit to the main square. In the central corridor that I described in the middle of the square there are a lot of scribbles.

DIPLOMA YEAR 08 – Description 02 (Non-Architectural sketch)

It is another free hand sketch but not architectural sketch of a building. Starts in the top left with a quarter of a circle. A bottom quarter of the circle. Top right the full circle but much smaller than the other circle which is incomplete. At the bottom of the page you got a kind of oval type pound shape, which is full width of that. Above that pound you got a slighter big one but more rectangular one. The any other thing are ten lines. All have like a tick on the top of them. All the ticks go in different directions and have different sizes. The first tick start to the left, quite small and the tick go to the right. The second tick is much bigger and the tick go other way, to the left. Another tick is almost near the circle and then three smaller ones.

DIPLOMA YEAR 08 – Review

Non-Architectural sketch: Hard, abstract.

Architectural sketch: easier. Make sense to me. I can remember what I said.

9 - DIPLOMA YEAR GROUP – SESSION 9

DIPLOMA YEAR 09 – Description 01 (Architectural sketch)

The first sketch is based around a fairly small square about 3 inches long each side based in the middle of the sheet of paper. There is a horizontal line dividing the top and the bottom part of the square, so at the bottom of the square there is a vertical line dividing those two halves. In the bottom left hand quarter of that square there are two horizontal lines dividing roughly into three parts. In the top right hand corner of the large square there is one vertical line giving a small rectangle roughly equal in size to the three in the bottom left hand corner of the main square. The length of three rectangles in the bottom left hand corner of that main square is another small rectangle slightly longer in line with the left hand edge of the main square and slightly below the main square. If you imagine the horizontal line dividing the top and bottom half of this main square project it out about an inch this forms the top right hand corner of the small square, each side of that square is roughly the same as the width of the small vertical back in the top right corner of the main square. Right across from this small square to the big square 3 inches either side of the horizontal lines in the bottom right hand corner of that mains square near the top is another one small horizontally placed rectangle slightly smaller than the twig in the bottom left hand corner of the main square.

DIPLOMA YEAR 09 – Description 02 (Non-Architectural sketch)

Ok here we have another fairly small sketch in total its about 2 and a half inches wide and about 4 inches tall. Occupying the top right hand corner of this space is a small circle about two thirds of an inch across maybe a quarter of an inch across from the

right hand side in the top of this imaginary rectangle. In the top left hand corner of this a quarter of a circle coming from the top left hand corner coming downwards and right maybe about an inch. In the bottom area of the sketch at most about 3 quarters an inch tall is a sort of flat oval extending most of the width of that sort of 2 and half to three inches. Above this is a slightly taller and more rectangular shape but with rounded corners, then coming from these two oval shapes are a bright in a bowl a near vertical lines each one been a small line coming from the top so it makes a sort of half of a single arrow. There are 10 of these in total at various heights and with various heights is of small lines coming up with big lines. I think that's all again.

DIPLOMA YEAR 09 – Review

I think that one is easier to describe well it felt like it was easier to describe ??
You were telling it as a story you kept on going from one thing to another, right rather than relating it back to a start point, and then I lost it because you were talking about this bit and then id speak to you about this bit and then – so it was clearly one bit that it all kind of ????. And when you were saying arrows I expected it been arrows like this way, not up. When you said projecting up I imagine it projecting that way, not that way. I'm not very good with triangles.

Architectural sketch: I think that one is easier to describe

10 - DIPLOMA YEAR GROUP – SESSION 10

DIPLOMA YEAR 10 – Description 01 (Architectural sketch)

The thing you are going to draw is a plan. Basically it is a plan. It's rectilinear. Two straight walls at 90 degrees angle. Very rough the two walls. One of them are two-thirds of the other. On the other side, this is small open. There is one large space, I think should be a bedroom or what looks like a walking and wardrobe. On the other side of this space there are a lots of scribbles but I'm not sure. Basically taking your drawing from the north, these walls at north and west side are big blocks, quite thickness on the plan. On the other side is more open. There is a large space on the north and west, which is the whole size of north wall and half size of the west wall. There is another small space, which goes on the under west, to west wall to half way to the north wall. That wall is then in the bottom then south. There is another space, which connection to that follows the each wall which is a continuation of the other room. Then half way down on the east wall, there is a wall just outside the space with a square box on the end of it. That's all.

DIPLOMA YEAR 10 – Description 02 (Non-Architectural sketch)

It's not architectural drawing. Looks very challenger any way. The best way to describe is that it's looks like a sea. There's a circle in the top right-hand corner that is suppose to be a moon or sun. There is another large quarter of the circle, it's quite large and is the section of the circle, which goes to the top left hand corner. Just a quarter of the circle. Down to the bottom of the picture there are, I think, what must be two pounds maybe. Two kinds of rectangular boxes, but it are not exactly rectangles. Shape of a Lakeland with cute edges. Some sort of sticks straight sticks up with a line attached, coming to the top of it and angle about 60 degree from the horizontal and about 30

degrees with the vertical. So I think it must be a representation of a plant. Must be sticks in a pound. Looks like basically pounds and sticks. They look like that.

DIPLOMA YEAR 10 – Review

Non-Architectural sketch: Simple. Easy to describe

Architectural sketch: more difficult

11 - DIPLOMA YEAR GROUP – SESSION 11

DIPLOMA YEAR 11 – Description 01 (Non-Architectural sketch)

It's an A size format. It's a series of lines. There is no fill just straight lines, some curve lines. An imaginary scene of reeds around the lake, over the lake. Towards the bottom of the page, for about half way down, there are two oblongs with curved corners. The top one of two is slightly bigger of the bottom one. The bottom is slightly more rounded. You got these two oblongs, which I think are lakes at the bottom of the page. The top right there is a small circle, which is probably the sun. The top left there is a quarter of the circle, which is bigger than the other circle, which is the sun. It's about a quarter of the page in radius. It's quite suit curve. Then you got the same sticks from the lake going up with the tails on it. Have you start drawing? I'll probably continue through the sticks. You got ten sticks. Some of them start in the bottom lake, some start in the top lake. One of them is just floating. They got like a little stalk pointing diagonally down, even left or right from the top of it. They are a straight line and then have a little stalk coming down. I'll start from the left. In the upward of the two lakes, there is a small one joining about half way the page, starts the left edge of the lake. Goes up. It's quite short and got a little stalk and goes down to the right of the top. The next one to the right, starts in the bottom lake and goes up and doesn't go pass the top lake. It goes just a little bit in the next lake and its tail goes down to the right. The next one to the right starts on bottom lake and goes up through the next lake and stops about the middle of the page. Its tail goes back to left downwards in between the last two stalks. The next one to right again is the same as the last one. Starts in the bottom lake, goes up nearly to that quarter and then down to the left. Then we have one to right of that, which is floating. This one starts above the top lake about half way the page, goes up and then the tail goes down to the right in about middle of the page. Then we have one straight in the centre of the page, starting in the bottom lake and goes straight up. It doesn't go as high as the last one and its tail goes down to the left towards the last one. Then we got the next one to the right, which goes from the bottom lake all the way up, the same high as the floating one and then down to the right. Its tail is quite close to the sun circle. The next is a short one, which starts on the top lake this time, straight up towards the end of the last tail and its tail slightly flat going to the right. There are two more sticks to go. The next one starts in the bottom oblong, goes up to below the tail of the last one and its tail goes left underneath the last one. The last one is at the end of the page on the right of it.

DIPLOMA YEAR 11 – Description 02 (Architectural sketch)

We've got a very sketchy plan of a building probably. It's a rough square. Start drawing a very sketchy square, nearly full the page but slightly to the top left. Top and left hand side of the square there's slightly more emphasis with few more scribble pen. Become a horizontally line crossing the centre of the square, just a straight line across. If you

imagine it in quarters, at the bottom left hand quarter there's two lines splitting that quarter into thirds. Each of those appears to be walls with double lines. There is single stalk making the bottom, dividing the bottom half of the whole square into quarters and then goes down to the edge. Beyond the edge, beyond those two bottom lines there's actually another two lines out side the square and the same size. The left hand side of the square extends to meet the corner of those two lines. Those two lines out side of the square are on the right hand side. There's a vertical but only join the two out side the square, doesn't join with the main square. There's a little square, a tiny square at the right of the whole big square, in the centre. Just below the centre line about, with the gap about these two of these small squares, so a little square out side. The thickness of that square, if you imagine again, back across the main square, there is like a width probably start away or that sort of bit, that is indicated by two lines going across the whole square and going out into the little square. There are some scribbles that have been attached on top of this. On the left hand edge, just below the centre line running horizontally, there is like an extra room, the same size of the small square. Next of that, still in the bottom quarter, is a scribble of a backwards shape N. There are more sketchy scribbles slightly to the right, which indicate the centre point of the whole square. In the top section of the square, right on the right hand side, about the width of that small square, which is about a eighth of the total, there is a line running vertically from about an eighth down the middle line. At the top of that channel you drew before, there is a backwards-S shape. Like a scribble, which is like when we draw insulation or sort like that. At the bottom right of the square, on the vertical side, there is extra thickness extra lines. A bit emphasis at the bottom right and the top left of the main square is also emphasis where are scribbles like pen. In the central channel that runs horizontally, below that on the right, below that channel you drew in the right, there is a little small rectangle just below the left hand line of that channel, inside that channel but in the next channel now. In the right of the square, on the central line, there is the letter D facing down. Looks like a semi-circle just out side the main square, like a letter D facing down. At the bottom left of all you drew, set out side of the square, with the left hand edge of the square running down into the outside lines, that's actually like a little line down just outside of that line. Between the square and the outside lines and that's give ends by little lips that going across horizontally to make the small section wall or like this. Top line of the whole square is made about five or six deep strokes and its little sketchy bits crossing it At the bottom middle of the main square you drew first there is a couple of little sketching, tiny little sketching circles, which I think just make up corners, basically make that corner. In the bottom left corner of the main square, where you drew those two horizontal lines with double lines, to the right where meeting the next quadrant on the right, actually one of the lines extends about a cm on this page and goes up into that horizontal channel. That's about it.

DIPLOMA YEAR 11 – Review

Non-Architectural sketch: Trick to describe

Architectural sketch: Hard to describe

12 - DIPLOMA YEAR GROUP – SESSION 12

DIPLOMA YEAR 12 – Description 01 (Architectural sketch)

I think it's a plan or some thing, but it is very sketchy. It's not very clear what it is. Basically if you draw a square about 6 cm by 6 cm. Have you done that? Draw a

horizontal line across the middle of the page. On the bottom half of that square you splat, divide that as well into half again. So you should have one more rectangle and two small squares. Then divide the bottom left square into three equal sizes horizontal strips. On the top of one of those strips, there is a cross that should represent a lift boil or some thing occupying the left about a third of that strip. In the right of that there is a horizontal line through the middle and a little scribble that looks like a sketch of a stair or something. On the bottom of the large square you drew, there is a further long line rectangle. I can't describe it. Hang on. You should have a large square split into two. A bottom half split into two. Left half split into three strips with these things, cross, sketches that I think represent stairs in plan. If you go to the bottom of your large square, basically draw a kind of oblong tine rectangle horizontal. Starts on the left edge of the big square, but off set on the bottom of it, finished just beyond half way. I can't describe that. The horizontal line that you drew across the middle of the large square there is a long rectangle in the right half, underneath, in the right half of that as well. I'm not sure what it represents. A kind of a gap in the end, that kind of long tine rectangle occupying part of that right hand little square. I don't know if it makes any sense at all. In the bottom of that there is a single line that projects about one and a half cm out of your large square and finishes with kind of a little sort of six or seven mm square on the end of it. Apparently if you look at your large square that you drew at the start, at the top half of it, there is a long tine rectangle going vertically up to the right hand side of that, which points ticks about six or seven, of the total size of the width of the square you drew initially. At the right hand side there is a bit of scribbles on the top of that. I think it's about it.

DIPLOMA YEAR 12 – Description 02 (Non-Architectural sketch)

The last description, the whole thing was quite sketchy, this is a single line. This one now is still sketchy but each line look very definite while having rough edges. But looks more like 'kall....' representation of something. It looks like a sun in the top right hand corner of it. Just a circle. Below could be a representation of trees or flowers in the vase or something. Each of those is drawing as vertical lines with a diagonal line down from the top of it. I don't have the engaged drawing accurately. If you put the page in portrait or drawing a rectangle in portrait format, at the bottom about fifth of it, draw a rough quite long horizontal oval. Above that in more space, draw another one but slight width taking a little more space. In the top fifth of the space, in the top right hand corner, draw a circle, which is the sun or something. On the left hand side of that there is a quarter arc, which cuts the corner of the page. Does it make sense? If you go to the ovals you just drew, in the bottom one, there are six of these vertical things, maybe trees or something. Starting from the left, in the space, except the last with double arrows. Starting from the left, the first one goes up just below the top of the upper oval, and it has a down diagonal tick, I suppose, going down to the right of it. The next one goes up and finishes a short little way above the top oval and has a left diagonal on the end of it, which is longer than the previous one. The next one is vertical, quite not actually, and got a slight angle from the bottom of it and goes left of it and finishes with another tick with the similar length of the previous one. The next on is kind in the middle of the oval. It's not pretty vertical, and like the previous one it finishes about $\frac{3}{4}$ way up the page. The next one finishes not far, the middle one, not far below that and again the tick on that goes to the left. The next on e is vertical and finishes, the last one was $\frac{3}{4}$ and that is more like $\frac{7}{8}$ way up the page and finishes just in the left the sun you drew and the tick on that goes to the right of it. The final one, which is big further apart from the others, goes up about half way up the page and the tick to the left. The ones coming

from the upper oval, there are three of them. The first one starts on the extreme left of the upper oval. So in the left of all ones you drew previously. It goes up to about, starts from near the bottom oval and goes up from the bottom of that oval length, double high of the oval and has tick to the right, diagonal to the right. Quite short one. The next one from the left is between the last one on the right, in the previous oval. Starts from the middle of the upper oval, goes up about one and a half times the size the oval and has a tick to the right. There is a final vertical one on the far right top oval, which goes to about two-thirds length the page and has a tick to the left. There is more of these vertical things, which is not coming from nether of the ovals, but kind of flying on the sky. If you look at the bottom oval and the vertical element you drew, look at the third and forth one to the left. It starts between those two from above the upper oval, a distance about half a width of the oval format and goes up vertically to sort of the high of the sun. The bottom of the sun you drew before and has a tick diagonal to the right. So you should have something that looks a sort of state with funny diagonals bits on the end, standing in some oval. But you know what it is going to be.

DIPLOMA YEAR 12 – Review

Non-Architectural sketch: Hard to describe. More abstract

Architectural sketch: Easier to describe. Easy to relate, lift, stairs. The shape contain the elements.

13 - DIPLOMA YEAR GROUP – SESSION 13

DIPLOMA YEAR 13 – Description 01 (Non-Architectural sketch)

It's a picture on a portrait page. In the top right corner there is a circle like a sun. In the left corner there's a quarter of the circle, but much larger. Just the bottom right hand corner of the circle. At the bottom of the page there are two very roughly drawing rectangles, which find across the page. Coming out of the rectangles there are several vertical lines. Smaller at the sides and longer at the middle. At the top of them, they have half arrows, a kind of side. There is one which comes from behind the second rectangle which is the shorter one. There are actually ten on total.

DIPLOMA YEAR 13 – Description 02 (Architectural sketch)

This is a sketch of a plan. Basically a large square in the middle. Very roughly drawing with a lot of lines in the top of each other. There is a line across the middle of it dividing in half. Here is a line very close to it, which comes out of the square, to the right. To the end of that line there is a smaller rectangle, which is taller than width. Again very roughly drawing on the blank of the top of it. They extend and pass each other in the corner. To the left of the rectangle you just drew, in the middle of the square, there are a couple of crosses, which make boxes. There is a line slower lower than that one which is through the square. And it goes half way from the left, connected with the main extruded line. In the bottom left hand corner, which is divided off with a tine line. The things at left are divided in half vertically with a couple of lines. Below that there's another rectangle, which is slightly spaced away from the box. But connected with that with a very sketching line on the left hand side of it, to the bottom left hand corner of the box. On the top right hand corner of the box there is a vertical line, which is quite close to the right hand side. Right to the top there is a kind of shape of letter two, which connected both of the lines of the right hand side.

DIPLOMA YEAR 13 – Review

Non-Architectural sketch: easy one

Architectural sketch: confuse

14 - DIPLOMA YEAR GROUP – SESSION 14

DIPLOMA YEAR 14 – Description 01 (Architectural sketch)

Have you got an A4 piece of paper in front of you? You turn it, so it's horizontal position. Right on the centre of the piece of paper you have to draw a very sketchy square about eight cm by eight cm. Imagine the whole drawing is drawing in a grid. It's kind of slightly off centre, on about three degrees. Is that making sense? I'm looking at a really sketch. A sketch of a plan basically, looks like a sketch for a plan. Probably you need to draw one kind of line very solid, not sketch line through the middle of that, horizontally. Let me think. It's got like little small sketchy box on its right, which is about one and a half cm in a kind of measurement and about four cm off to the side of the original box. This small electrical on the side, the top of it, forwards in line with the line you just drew, draw the centre of it. Is that making sense? That's look quite sketchy as well, draw like four lines or five or some. Then at the very bottom of the main box, there is another like rectangle, which is longer than tick and that is probably about one and a half cm high, but it extends side ways horizontally from the bottom left corner of the main box and extends out to the right by just over like half width of the horizontal width of the main box. That's kind like the proportions of it, but it is kind of sat down off the main box by one and a half cm. Is that making sense? Basically a rectangle, slightly wide than the half width of the main box and one and a half cm high, it's away from the main box by about one and a half cm. It starts on the bottom left hand corner of the main box. Sticking these same lines off the small box here. There is a line connecting it to the bottom left hand corner of the main box. If you imagine the flat kind of line you created in the main box, on the left hand side, just continue it down forwards and just draw the smaller box. Is that making sense? If you get back to main box, in the bottom half of the main box, it has been divided into two by a kind of vertical line. Is like very frame line, is just one, single one. So it's split in half. Is that ok? Let me see. In the main box, in the bottom half, and we are in the left section now. Is that making sense? That section seems to be divided in approximately three parts. Imagine you drawing a sort of like there is a thickness too. Is divided into three parts almost equal but they're not quite, probably near they are. It is been divided with what probably should be like wall or kind of like, with two lines very close, very close together but separated. So looks like a wall. There are two of those dividing into three. You got those there? Did I say that go horizontally? Is that all making sense? In the top third of that section, in the bottom left section of the main box, is that making sense? It is divided into three. In the top of one of those three is somebody's drawing on the left hand side, which again is divided by probably about three. There is somebody's drawing, a cross in one motion. So draw a cross taking about half of the page. Just a bit to the right of that, there are kinds of signs, but a sort of just crossing over the centre line of the main box. Imagine a kind of backwards N. starts from... oh dear it's difficult. If we were in the main box, in the bottom quarter that we've been working in, in the top third of that, it starts probably along the half way line of that box. It's about one cm from the right hand side of it, and then you just drawing a kind of backwards N with the top of it just crossing over the centre line, if you didn't do it already. Then, just out from that, just

below that, there is a single line stretching out. Starts from the right and goes out towards the cross, quite rich it. From the centre of the cross there is a very shorter two cm line that starts from the centre of the cross and goes down to the right. There is just a very short line crossing both of those two lines you should just drew. Is that making sense? Scrap up it, a bit very difficult. If you go back to the top half of the main box, to the right of that you need to draw a line that would probably be about two cm from the right side of the main box. Yep? Starting from the centre line and going up to about one cm in the top of main box, is that making sense? You need to complete that rectangle by going it back to the right hand side of the box. I think it's that kind of entrance or some kind. So there is just a little sort of horizontal line going across the right hand side, no, there is a smaller horizontal line crossing over that right hand side of the main box, in that little kind of gap in the top of the rectangle. Is that making sense? In the top half of the main box, there is a kind of rectangle thing. Have you done that? You should have just drawing a vertical thing to the right hand side of it. Ok, we leave it. It's not important any way. This picture is quite ridiculous. You know the little bit like a stalk-tail you just drew? Ok, that's connected to the main one, it's connected to the main plan, a main plan what I think it is. It's connected by two horizontal lines that again should be a representation of some kind of wall from above. They basically start on the satellite box. On the satellite box they start from kind of half way down on the left hand side and probably be about a kind... remembering the early walls you drew? It's probably twice of the thickness of one of those. It goes into the main box, goes about as far as... no, too complicated now. You got like a main box divided into what say, what like a wall. Imagine it divided into quarters and got the bottom right corner. It extends horizontally about half way of the bottom right hand quarter. One of those lines continues to about, the top one of those lines continues to about one cm away from the left hand side of that right hand quarter. Where that finished you connected it back up to the centre horizontal line of the main box. In the top half of the main box, I'll ask you to draw a kind of line about one cm away from the right hand side. Have you got that line? In the top one, in the top right hand box into the top box, from the right hand side, there is a line that is vertical about two and a half cm out from the side of it. I think it's probably what can be seen in that page. If you draw a vertical line, two and a half cm out from the right side of that section, then that extends from the horizontal line that divides the entire main box, up to one cm from the top of that main box. Then that continues into the right a kind of more, and in the end of that draw a horizontal line to make the right side of the box. There is another horizontal line about two and a half cm below that, a kind of like cuts off a little room, a little box, a kind of rectangle that has been created there. And there are just a width ness signs on the middle of it. If you imagine that kind of rectangle you just drew, the left line that you drew, continues down into the bottom half of the main box and running up to the two lines you should have drawn from the satellite box. There are just two more things, one more thing really. Take the main one, the main box, take the box in the bottom left quarter, divided into three bits. Take the top one of those three. We want the bottom line of that. That line extends horizontally into the bottom right quarter of the main box by about three or four cm. Is that making sense? There is vertical line drawing join that line that comes from the satellite box.

DIPLOMA YEAR 14 – Description 02 (Non-Architectural sketch)

I'll just describe it first. I'm looking at a kind of selection of horizontal, sorry a selection of vertical arrows. Just draw a kind of one main line and two lines even happen. Imagine taking away one half of the end of the arrow, just one diagonal at the end. I'm looking at a selection of those at different highs and with different lengths

from the end of it. Horizontally pointing upwards, but there are slightly angles as well. It looks like a sort of selection of reeds or something like. Selection of kind of reeds by a kind of lakes or something at night, but a very abstraction of it. In the top left hand corner of it there is a sort of a quarter of a circle. Is that making sense? A line that is a quarter of the circle, that looks like representing a moon or something. There is also another complete circle as well, on the page but up on the right. There is a kind of a couple of ornate on the bottom of the page. So that's all on the picture but I'll try to put in a kind of order. So all the things on: There is a selection of those arrows things. There are ten of those. There is circle, there is a quarter of the circle and there are two ornate things as well. I think it's a photocopy or scanner of a A4 sheet of paper. Basically it's a line drawing but I can see a kind of shadow of the A4 piece of paper. Make a kind of invisible A4 sheet of paper in the centre of your sheet. We are talking about this thing being about eight cm wide by thirteen or fourteen cm high. Is that making sense? That's the page. From the circle or the sun, is one in the top right hand corner, up from the right by about one cm and down from the top by about one and a half cm and it is about three cm in radius. No three cm across, diameter isn't it? Yes, sorry three cm diameter. Then a quarter of the circle is in the left corner and that would be in radius, probably about something like five cm, but if you imagine it starting one cm from the left side and finishing one cm from the top. Taking those two points and it's about five cm radius. Is that making sense? Ok, let's try this way. If you take a point from the top left hand corner, one cm from the left and one cm from the top. Imagine drawing a quarter of a circle with five cm radius. Is that making sense? If you have like a pair of compasses and you took the point one cm from each side, is the point where you stick the sharp and draw a quarter of circle, so five cm out. Then we'll go to those two little bits. They are sort of like free hand rectangular ovals. Is that making sense? There is a smaller one that goes about four cm in high and sits about one cm on the bottom of the page and about one and a half cm in from each side of the page. And just draw that kind of free hand oval thing. Is that making sense? Have you done that? Above that there is another one of those, one cm up of the last one but slightly more angular and slightly bigger as well. So just draw another one of those but slightly angular and rectangular and slightly larger above it. That's all, I think. Except that we got a small piece of artistic interpretation. There are ten of them. None of them overlap basically. The thing is, that six of them start in the lower rectangle, in the lower kind of rectangular box and scratch up towards its kind of moon at the top, at different lengths. There are six of those and the central three extend up really quite up the page. Almost reach that line and the two spheres in the top. They are like missing about one cm, the central three of them. Two go to the left and one goes to the right, the arrowhead in the top. There is one to the right of those, on the far right of the rectangle and with the arrow going to the left, but not nearly at all. There is one on the far left of that lower box, that's short one and, if you imagine you drawing a vertical line that is not even go beyond the rectangle above it and the arrow to the right. One more just to the right of that, that goes up above the rectangle, the second rectangle and has a very long arrow that goes to the left. There are three more arrows that start in the rectangle above. One is one that in the right to far left and just misses the previous you drew and the arrows go to the right and it's about six cm long maybe. There is one in between the two furthers right arrows that start up in the bottom section. And that arrow goes to the right and goes maybe about seven cm. There is a far right arrow as well in the bottom section about eight cm high and the arrow go to the left. There is one more and that one starts probably about two cm up from the top of the main rectangle box and sits between the two of the arrows that start in the first one that we were looking out. It sits between the imaginary corner of the left

hand side of first rectangle, just between the third and the fourth one. It extends up about one cm away from the quarter of circle and the arrow goes to the right. That's it.

DIPLOMA YEAR 14 – Review

The students didn't point a harder or easier sketch to describe.

15 - DIPLOMA YEAR GROUP – SESSION 15

DIPLOMA YEAR 15 – Description 01 (Non-Architectural sketch)

There are two large horizontal shapes at the bottom of the page. One above the other. At the top there is a circle, at the top right. The top left there is a quarter of the circle with bottom right being visible. Is that made sense? From the lower one of the two shapes in the bottom, there are six vertical lines growing up. Not all way, but to different heights. One of these gets to the circle height and then goes down, then taking down a much smaller degree at a slight angle. So like up side down tick, very small in the page. From the upper shape there are three vertical lines, all with this up side down tick aspect. There is one coming up above this shape, above. I think that's it.

DIPLOMA YEAR 15 – Description 02 (Architectural sketch)

The second one is a large box square. Is like a plan of the building, which is finished square. The top on that, lines are very slight thicker. Horizontally through the middle, you have this kind of corridor runs off each vertical line of the plan, creating a top half and a bottom half. On the top half, this rectangle now created, has through its right a further compartment, which is a corner of rectangle. So it's a oblong stretch on its right hand side. Coming from the middle corridor there is a small strip, just out of the square, continuing for maybe a quarter of the length of the actual square. Just out, very far. Further to that there is another square. It's a large square but still... forget that, it's undecidable. It's a square, which is about the same width as the corridor, coming out the same length of the corridor, of the square. To the bottom of the big square, there is a ... well draw a line from the actual corridor on the bottom half of the square. Draw a line from the middle of the corridor down to the bottom horizontal line of the square. Continue this for another half or another quarter. The same distance as the bit, just up the corridor before. From the right-hand wall, another compartment, just out of the big square. So from that, just draw a line down towards your left and then coming from the left hand wall down, so they both meet. That's ok.

DIPLOMA YEAR 15 – Review

Non-Architectural sketch: Trick to describe. More difficult

Architectural sketch: Easy to related with each other. I know what was because you said look like a plan.

Annex IV

Approaches to the protocol analysis

First approach to the protocol analysis

First Year session 01 - Description 01 - Non-architectural sketch

Segmentation: Total 4 segments.

Verbal Cognitive Actions: Total 12 cognitive actions.

Duration: 3min. 06seg.

Segments	
1	Draw a sheet of A4 rectangular paper; portrait format
2	Towards the bottom are two sausages, longs ovals. One on top of each other with a gap between them. Top right corner is a circle, top left corner a sort of quarter of the circle, cutting the corner of the page. That's all
3	Coming up of the ovals are bars, lines with half arrow on it. One is coming up outside of the upper right hand side of that oval with the left hand head, if you know what I mean. Like a seven, slightly on its side. This has a left hand head. Another, further along with head going to the right side. Along two-thirds the way across from the right the same thing. One in the side of other one. Backwards a seven again. There is another on the bottom oval. Big one facing the other way. Two big ones next each other, about one third of way to the right. Another big one near to the circle in the top right corner, with left head. In the end of the ovals is left hand one, a sort of half arrows with the left hand side of the arrows.
4	It looks like a face, two eyes, two lips with strange thing poking out of it. I think, I hope. Like a flag or something, golf flag.

	Verbal Cognitive Actions								
	Paper Refern	Features	Spatial Relation	General View	Symbolic Looks like Imagine a	Judgment	Resume	Review	I think That's all
1	✓								
2		✓	✓	✓	✓				✓
3		✓	✓	✓	✓				
4					✓				✓
Σ	01	02	02	02	03	00	00	00	02

First Year session 01 - Description 02 - Architectural sketch

Segmentation: Total 05 segments.

Verbal Cognitive Actions: Total 18 cognitive actions.

Duration: 06min. 48seg.

Segments	
01	A large square divided in half horizontally. Bottom section divided half again vertically. Left hand bottom small section is divided into thirds horizontally with double lines a few millimetres apart. Top third of that one has a sort of an eight on its side. There's a horizontal line third of the way up that top third. Then a scribble above that line taking up most of the rest of it. A bit like the M missing leg on the left.
02	The right hand bottom square, about a quarter away from the top of it, that's a small rectangle about a ten the way. Gap on the left quarter gap on the right. That's a little sort of shaft running parallel outside of the rectangle, sticking out of the whole square, out of the drawing. A little square on the end of it. In the top half of big square, on right, is another little rectangle. It's like

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Annex IV – Approaches to the protocol analysis

	a plan of a room, so looks like a bed. A little rectangle about a sixth of the way up vertical. The top of big square, through it, at the bottom of the picture there is another horizontal rectangle about the same... than... The half square at the bottom, about a quarter of the high of the small square, below the big square attached very left, so parallel the left hand side of the big square. Two lines, a little wall. I think.
03	In the bottom left of the two small squares, into the big square divided into thirds, the line dividing between the top third and the middle third, horizontal line just out about third length of the big square. In the end of that there is a vertical line. Rectangle across, through that there is a horizontal line. Curve in the end, up side down. On that left hand side of the cross, a little face, two eyes and a nose and a little moustache. It's like a umbrella handle just touching the middle line. Umbrella handle, a little face.
04	There's a little, half way down big square on right there's a tiny blob. Like D just attached on the side, running along with the line that divides it in half horizontally. Little square.
05	So that's a sketchy style, scribbled lines here and there.

Segments	Verbal Cognitive Actions								
	Formal				Symbolic	Reflective			
	Paper referen	Featur es	Spatial Relation	Generl View	Looks like Imagine a	Judge ment	Resum e	Review	I think That's all
1		✓	✓	✓	✓				
2		✓	✓	✓	✓				✓
3		✓	✓	✓	✓				
4		✓	✓	✓	✓				
5				✓					
Σ	00	04	04	05	04	00	00	00	01

Diploma Year session 01 - Description 01: Non-architectural sketch

Segmentation: Total 06 segments.

Verbal Cognitive Actions: Total 27 cognitive actions.

Duration: 04min. 24seg.

Segments	
01	It's an abstract image. Basically, at the bottom of A4 page, is a very basic kind of oval. There is little up side down ticks witch come up. In the top right hand corner is a circle like a sun. It looks like an abstract pot flowers... (Oh God!!).
02	So you got a little oval at the bottom and then you got six up side down vertical ticks coming out of it, they go to about the middle of the page. These four up side down ticks, they actually come inside the circle. About the midway up of those ticks, there is a very crude square just been draw. Inside that square are three up side down ticks again. There is one at the far left hand corner that goes up about three cm. There is one in the far right hand corner of that square. That one goes up a bit higher. There is one on the left hand side of that. So, there are three up side down ticks in the middle circle. Towards the top of the page there is one tick witch is just in the middle of the page, and not growing on circle or square.
03	Go to the top right hand corner of that page. Draw a circle like a sun. Sun is shinning down on the little vase of ticks. In the far top left hand corner you've got a semi-circle.
04	When you look at your drawing, a very nice drawing you've done, look at the very far bottom of the page. Should be a rough oval circle...should be... rough.
05	In side should be like little flowers in a pot of vase. There should be six ticks going across from one end to the other. Above that very roughly drawing square. These tall ticks should run through the middle of this square. There should be three upright ticks. Above it a little tick witch is outside that.
06	Top right hand corner of this page, is a little sun. On left hand top half of page is a semi-circle, actually a quarter circle, sorry. That's it.

Segments	Verbal Cognitive Actions								
	Formal				Symbolic	Reflective			
	Paper referen	Featur es	Spatial Relation	Generl View	Looks like Imagine a	Judge ment	Resum e	Review	I think That's all
1	✓	✓	✓	✓	✓	✓			
2		✓	✓	✓	✓			✓	
3		✓	✓		✓			✓	
4		✓	✓					✓	
5		✓	✓		✓				
6		✓	✓		✓		✓	✓	✓
Σ	01	06	06	02	05	01	01	04	01

Diploma Year session 01 - Description 02: Architectural sketch

Segmentation: Total 05 segments.

Verbal Cognitive Actions: Total 23 cognitive actions.

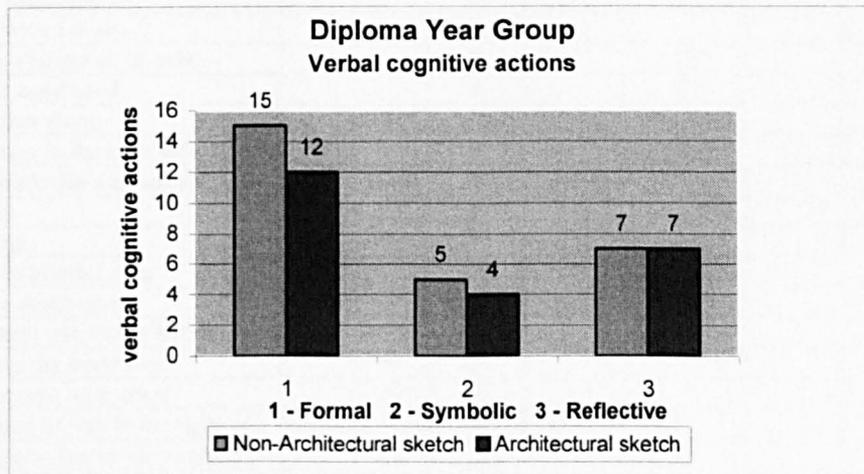
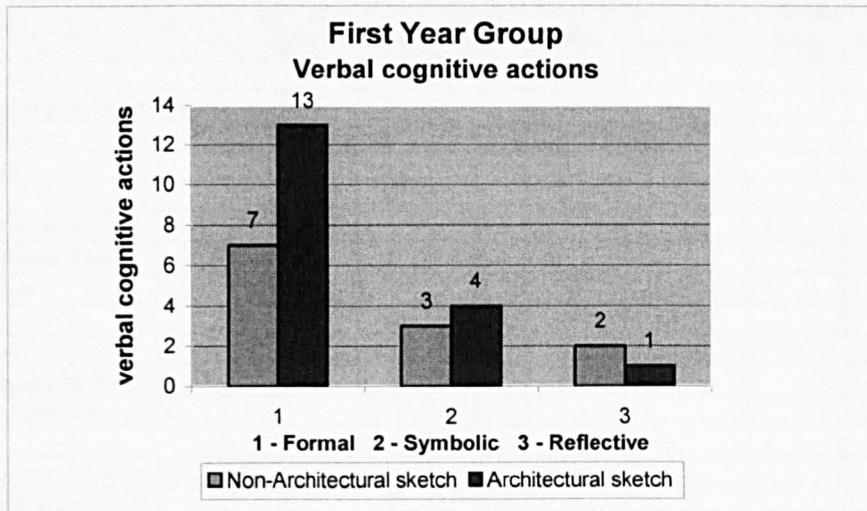
Duration: 06min. 00seg.

Segments	
01	Basically a very roughly drawn floor plan... of kind... it's like a very rough sketch what you would find on tracing paper, witch is right at the beginning stages of design. Quite simple really.
02	A large square to start. Just two lines through it, just to give an indication of thickness. Go to the bottom of the left hand square you have drawn. Draw a little rectangle witch runs from the left hand side. A bit of a gap between the two, from the left hand corner to the centre point of the square. Extend the wall of your square into the edge of the rectangle.
03	You should have two shapes: a large square, on the bottom left there should be a little rectangle. The wall should run between the two of them on the left hand side of the square.
04	What you must do now is mirror the top line of your rectangle to the bottom line of the square. From the centre point of the bottom line of the square, draw a line up to the middle of the square. Then draw a line across from centre point to centre point on the left hand side and right hand side of the square. So you have got the line going across. Next draw a little square box, towards the top right hand corner of the square. Leave a little gap between the rectangles. Make sure it is separated. Move your pen to the mid-point of the left hand side of the square. Move it down a tiny bit to give it a little space. Draw a wall across, about a few centimetres do like a double line. At the end of the wall, draw another square. Just a small square, the same size as the one you just did earlier. Look quite estrange. There are a few odd squiggles in it.
05	What you should have is a large square with a rectangle on the bottom left hand corner. Gap between the two objects. You should have a line going up from the middle point, bottom side of the square. Meeting another line running from left to right. A little box, top right corner, another little box like a satellite coming out of the right hand corner. Go to the square you should have on your top right hand corner, draw a line from the right angle on the far bottom left hand side. Draw a little line down. Make sure it doesn't meet the mid-point line. Put a little arrow on the bottom of it.

Segments	Verbal Cognitive Actions								
	Formal				Symbolic	Reflective			
	Paper referen	Featur es	Spatial Relation	Generl View	Looks like Imagine a	Judge ment	Resu me	Review	I think That's all
1					✓	✓			
2		✓	✓	✓	✓			✓	
3		✓	✓	✓	✓		✓		
4		✓	✓	✓		✓		✓	

5		✓	✓	✓	✓		✓	✓	
Σ	00	04	04	04	04	02	02	03	00

This is the summary of the first results related to the first approach to the protocol. The results are presented in terms of numbers of verbal cognitive actions. These verbal cognitive actions are divided into three subcategories – Formal, Symbolic and Reflective.



Second approach to the protocol analysis

First Year session 01 - Description 01: Non-architectural sketch

Segmentation: Total 43 segments and

Verbal Cognitive Actions: Total 70

Duration: 3min. 06seg.

Segments	Verbal Cognitive Actions								
	Formal				Symbolic	Reflective			
	Paper form	Features	Spatial relation	General view	Looks like imagine a	Difficult easy	I'll try again	Rememb descript	I think I hope
1. Draw a sheet of A4,	F								
2. rectangular paper portrait format.	F	F							
3. Towards the bottom			F						
4. are two sausages,					S				
5. long ovals.		FF							
6. One on top of each other			F						
7. with a gap between them.			F						
8. Top right corner			F						
9. is a circle		F							
10. top left corner			F						
11. a sort of a quarter of the circle,		F							
12. cutting the corner of the page.			F						
13. That's all.				F					R
14. Coming up of the ovals are bars.		F	F		S				
15. Lines with half arrow on it.		F			S				
16. One is coming up outside			FF						
17. of the upper right hand side of that oval		F	FF						
18. with the left hand hand,			F		S				
19. if you know what I mean.									R
20. Like a seven, slightly on its side.			F		S				
21. This has a left hand head.			F		S				
22. Another, further along		F							
23. with head going to the right side.			F		S				
24. Along two-thirds the way across			FF						
25. from the right			F						
26. the same thing,		F							
27. one in the side of other one.			F						
28. Backwards a seven again.					S				
29. There is another one on the bottom oval.		FF	F						
30. Big one facing the other way.		F	F						
31. Two big ones next each other,		F	F						
32. about one third of way to the right.			FF						
33. Another big one near to the circle.		FF	F						
34. In the top right corner with left head.			FFF		S				
35. In the end of the ovals		F	F						
36. is a left hand one.			F						
37. A sort of half arrows					S				
38. with the left hand side of the arrows.			F		S				
39. It looks like a face,					S				
40. two eyes, two lips.					SS				
41. I think, I hope.									R
42. Like a flag or something,					S				
43. Golf flags					S				
Total			51		16		3		
					70				

First Year session 01 - Description 02: Architectural sketch

Segmentation: Total 74 segments

Verbal Cognitive Actions: Total 165

Duration: 06min. 48seg.

Segments	Verbal Cognitive Actions								
	Formal				Symbolic	Reflective			
	Paper form	Features	Spatial relation	General view	Looks like imagine a	Difficult easy	I'll try again	Rememb descripti	I think I hope
1. A large square		FF							
2. divided in half horizontally.		FF							
3. Bottom section			F						
4. divided half again vertically.		FF							
5. Left hand bottom small section		F	F						
6. is divided into thirds horizontally		FF							
7. with double lines		F							
8. a few millimetres apart.			F						
9. Top third of that one			F						
10. has a sort of an eight on its side.		F			S				
11. There's a horizontal line		FF							
12. third of the way up that top third.		FF	FF						
13. Then a scribble above that line		FF	F						
14. taking up most of the rest of it.			F	F					
15. A bit like the M					S				
16. missing leg on the left.			F		S				
17. The right hand bottom square		F	FF						
18. about a quarter away from the top of it.		F	FF						
19. That's a small rectangle		FF							
20. about a ten the way.		F							
21. Gap on the left quarter gap on the right.		FF	FF						
22. That's a little sort of shaft		F			S				
23. running parallel			F						
24. outside of the rectangle		F	F						
25. sticking out of the whole square,		F	F	F					
26. out of the drawing.			F	F					
27. A little square on the end of it.		FF	F						
28. In the top half of big square,		FF	F						
29. on right,			F						
30. is another little rectangle.		FF							
31. It's like a plan of a room,					SS				
32. so looks like a bed.					S				
33. A little rectangle		FF							
34. about a six of the way up vertical.		FF	F						
35. The top of big square, through it,		FF	FF						
36. at the bottom of the picture			F	F					
37. there is another horizontal rectangle		FF							
38. about the same... than...		F							
39. The half square at the bottom		FF	F						
40. about a quarter of the high		F	F						
41. of the small square,		FF							
42. below the big square		FF	F						
43. attached very left,			FF						
44. so parallel the left hand side of the big square.		FF	FF						
45. Two lines a little wall.		FF			S				
46. I think.									R
47. In the bottom left of the two small squares		FF	FF						
48. into the big square divided into thirds,		FFF							
49. the line dividing between the top third		F	FF						
50. and the middle third,			FF						

Sketching and visual perception in conceptual design
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51. horizontal line just out		FF	F						
52. about third length of the big square.		FFF	F						
53. In the end of that			F						
54. there is a vertical line.		FF							
55. Rectangle across,		F	F						
56. through that there is a horizontal line.		FF	F						
57. Curve in the end up side down.		F	FF						
58. On that left hand side of the cross,			F			S			
59. a little face.						S			
60. Two eyes and a nose a little moustache.		F				SSS			
61. It's like an umbrella handle						S			
62. just touching the middle line.		F	FF						
63. Umbrella handle,						S			
64. a little face.		F				S			
65. There's a little,		F							
66. half way down big square on right,		FFF	FF						
67. there's a tiny blob.		F				S			
68. Like D						S			
69. just attached on the side,			FF						
70. running along with the line		F	FF						
71. that divides it in half horizontally,		FF							
72. little square.		FF							
73. So that's a sketchy style,						S			
74. scribbled lines here and there		F	FF						
Total			145			19		1	
						165			

Diploma Year session 01 - Description 01: Non-architectural sketch

Segmentation: Total 66 segments

Verbal Cognitive Actions: Total 128

Duration: 04min. 24seg.

Segments	Verbal Cognitive Actions								
	Formal				Symbolic	Reflective			
	Paper ormat	Featu res	Spatial relation	General view	Looks like imagine a	Difficult easy	I'll try again	Rememb descripti	I think I hope
1.It's an abstract image.				F					
2.Basically, at the bottom of A4 page,	F		F						
3.is a very basic kind of oval.		F							
4.There is little up side down ticks		FF			S				
5.witch come up.			F						
6.In the top right hand corner			FF						
7. is a circle like a sun.		F			S				
8.It looks like an abstract pot flowers				F	S				
9.Oh God!!						R			
10. So you got a little oval		FF							
11.at the bottom			F						
12.and then you got six				F					
13.up side down vertical ticks		FF			S				
14.coming out of it,			F						
15.they go to about the middle of the page.			F	F					
16.[These four up side down ticks,		F		F	S				
17.they actually come inside the circle.		F	F	F					
18.About the midway up			F						
19.of those ticks,					S				
20.there is a very crude square		FF							

Sketching and visual perception in conceptual design
Annex IV – Approaches to the protocol analysis

21.just been draw.				F					
22.Inside that square		F	F						
23.are three up side down ticks again.		F		F	S			R	
24.There is one at the far left hand corner			FF						
25.that goes up			F						
26.about three cm.		F							
27.There is one in the far right hand corner			FF						
28.of that square.		F							
29.That one goes up a bit higher .			FF						
30.There is one on the left hand side of that.			FF						
31.So, there are three up side down ticks		F		F	S				
32.in the middle circle.		F	F						
33.Towards the top of the page			F	F					
34.there is one tick					S				
35.witch is just in the middle of the page.			F	F					
36.and not growing on circle or square.		FF			S				
37.Go to the top right hand corner of that page.			FF	F					
38.Draw a circle like a sun.		F			S			R	
39.Sun is shinning down			F		SS				
40.on the little vase of ticks.		F			SS				
41.In the far top left hand corner			FF						
42.you've got a semi-circle.		F						R	
43.When you look at your drawing.				F					R
44.a very nice drawing you've done,				F					R
45.look at the very far bottom of the page.			FF	F					
46.Should be a rough oval circle		FF							
47.should be rough.				F				R	
48.In side			F						
49.should be like little flowers					S			R	
50.in a pot of vase.					S				
51.There should be six ticks				F	S				
52.going across			F						
53.from one end to the other.			F						
54.Above that very roughly drawing square.		FF	F						
55.These tall ticks				F	S				
56.should run through the middle			F						
57.of this square.		F							
58.There should be three upright ticks.			F	F	S				
59.Above it a little tick		F	F		S				
60.witch is outside that.			F						
61.Top right hand corner of this page,			FF	F					
62.is a little sun.					S			R	
63.On left hand top half of page			F	F					
64.is a semi-circle,		F						R	
65.actually a quarter circle, sorry.		F							R
66.That's it.				F					R
Total			94		22			12	
					128				

Diploma Year session 01 - Description 02: Architectural sketch

Segmentation: Total 80 segments

Verbal Cognitive Actions: Total 150

Duration: 06min. 00seg.

Segments	Verbal Cognitive Actions								
	Formal				Symbolic	Reflective			
	Paper forma	Featu res	Spatial relation	General view	Looks like imagine a	Difficult easy	I'll try again	Rememb descripti	I think I hope

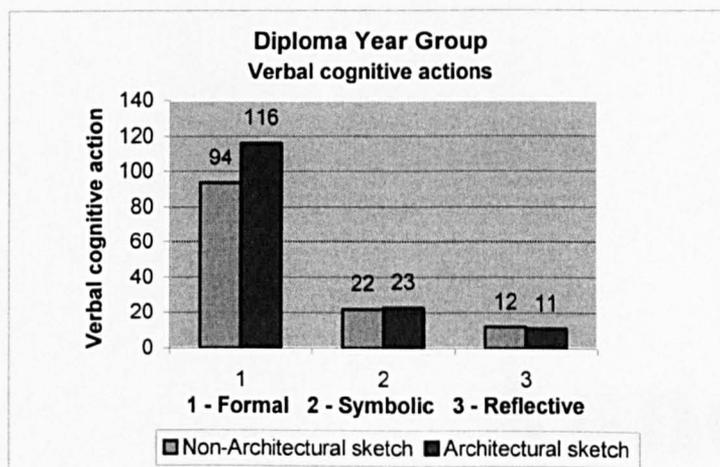
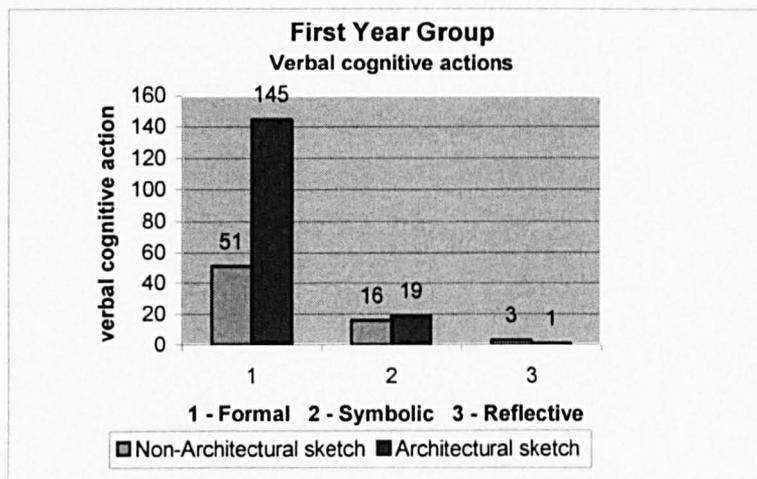
Sketching and visual perception in conceptual design
Annex IV – Approaches to the protocol analysis

1. Basically a very roughly drawn				F					
2. floor plan of kind					S				
3. it's like a very rough sketch				F	S				
4. what you would find on tracing paper,					S				
5. witch is right at the beginning stages of design.					S				
6. Quite simple really.						R			
7. A large square to start.		FF							
8. Just two lines through it,		F	F						
9. just to give an indication of thickness.		F			S				
10. Go to the bottom			F						
11. of the left hand square you have drawn.		F	F					R	
12. Draw a little rectangle		FF							
13. witch runs from the left hand side.			F						
14. A bit of a gap between the two,		F	F						
15. from the left hand corner			F						
16. to the centre point of the square.		F	F		S				
17. Extend the wall					S				
18. of your square		F							
19. into the edge of the rectangle.		F	F						
20. You should have two shapes:		F		F					
21. a large square,		FF						R	
22. on the bottom left			FF						
23. there should be a little rectangle.		FF						R	
24. The wall should run					S				
25. between the two of them			F	F					
26. on the left hand side of the square.		F	F						
27. What you must do now is mirror the top line		F	F		S				
28. of your rectangle		F							
29. to the bottom line of the square.		FF	F						
30. From the centre point			F		S				
31. of the bottom line of the square,		FF	F						
32. draw a line up		F	F						
33. to the middle of the square.		F	F						
34. Then draw a line across		F	F						
35. from centre point to centre point			F		SS				
36. on the left hand side			F						
37. and right hand side of the square.		F	F						
38. So you have got the line going across.		F	F	F				R	
39. Next draw a little square box,		FF			S				
40. towards the top right hand corner			FF						
41. of the square.		F							
42. Leave a little gap between the rectangles		FFF	F						
43. Make sure it is separated.				F					
44. Move your pen to the mid-point			F		SS				
45. of the left hand side of the square.		F	F						
46. Move it down			F						
47. a tiny bit		F							
48. to give it a little space.		F							
49. Draw a wall across,			F		S				
50. about a few centimetres		F							
51. do like a double line.		F							
52. At the end of the wall,			F		S				
53. draw another square.		F							
54. Just a small square,		FF						R	
55. the same size as the one you just did earlier.		F							R
56. Look quite estrange.						R			
57. There are a few odd squiggles in it.		F		F					
58. What you should have is a large square		FF		F				R	
59. with a rectangle		F							
60. on the bottom left hand corner.			FF						
61. Gap between the two objects.		F	F					R	
62. You should have a line		F							
63. going up			F						

Sketching and visual perception in conceptual design
Annex IV – Approaches to the protocol analysis

64. from the middle point,			F		S			
65. bottom side of the square.		F	F					
66. Meeting another line		F						
67. running from left to right.			F					
68. A little box,		F			S			
69. top right corner,			F					
70. another little box		F			S			
71. like a satellite					S			
72. coming out of the right hand corner.			FF					
73. Go to the square you should have		F					R	
74. on your top right hand corner,			FF					
75. draw a line from the rectangle		FF						
76. on the far bottom left hand side.			FF					
77. Draw a little line down.		FF	F					
78. Make sure it doesn't meet the mid-point line.			F	F	S			
79. Put a little arrow		F			S			
80. on the bottom of it.			F					
Total			116		23		11	
					150			

These are the summary of the results related to the second approach to the protocol.



Annex V

Segmentation and analysis

1 - FIRST YEAR GROUP - Segments and verbal cognitive actions

FIRST YEAR session 01 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
	. Draw a sheet of A4,	G								
. rectangular paper portrait format.	G									
. Towards the bottom		G								
. are two sausages,						S				
. longs ovals.					F					
. One on top of each other		G								
. with a gap between them.		G								
. Top right corner		G								
. is a circle					F					
0. top left corner		G								
1. a sort of a quarter of the circle,					F					
2. cutting the corner of the page.			G							
3. That's all.				G						
4. Coming up of the ovals are bars.					F	S				
5. Lines with half arrow on it.					F	S				
6. One is coming up outside		G								
7. of the upper right hand side of that oval		G			F					
8. with the left hand head ,						S				
9. if you know what I mean.									R	
0. Like a seven, slightly on its side.						S				
1. This has a left hand head.						S				
2. Another, further along			G							
3. with head going to the right side.						S				
4. Along two-thirds the way across		G								
5. from the right		G								
6. the same thing,		G								
7. one in the side of other one.		G								
8. Backwards a seven again.						S		R		
9. There is another one on the bottom oval.		G			F					
0. Big one facing the other way.		G								
1. Two big ones next each other,			G							
2. about one third of way to the right.		G								
3. Another big one near to the circle.			G		F					
4. In the top right corner with left head.		G				S				
5. In the end of the ovals					F					
6. is a left hand one.		G								
7. A sort of half arrows						S				
8. with the left hand side of the arrows.						S				
9. It looks likes a face,						S				
0. two eyes, two lips.						SS				
1. I think, I hope.									R	

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

2. Like a flag or something,						S				
43. golf flag.						S				
			23		9	16			3	
						51				

FIRST YEAR session 01 - Description 02 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
. A large square					F					
. divided in half horizontally.		G								
. Bottom section		G								
. divided half again vertically.		G								
. Left hand bottom small section		G								
. is divided into thirds horizontally		G								
. with double lines					F					
. a few millimetres apart.		G								
. Top third of that one		G								
0. has a sort of an eight on its side.						S				
1. There's a horizontal line					F					
2. third of the way up that top third.		G								
3. Then a scribble above that line					F					
4. taking up most of the rest of it.		G								
5. A bit like the M						S				
6. missing leg on the left.						S				
7. The right hand bottom square					F					
8. about a quarter away from the top of it.		G								
9. That's a small rectangle					F					
0. about a ten the way.		G								
1. Gap on the left quarter gap on the right.		G								
2. That's a little sort of shaft						S				
3. running parallel		G								
4. outside of the rectangle					F					
5. sticking out of the whole square,			G		F					
6. out of the drawing.			G							
7. A little square on the end of it.		G			F					
8. In the top half of big square,					F					
9. on right,		G								
0. is another little rectangle.					F					
1. It's like a plan of a room,						S				
2. so looks like a bed.						S				
3. A little rectangle					F					
4. about a six of the way up vertical.		G								
5. The top of big square, through it,					F					
6. at the bottom of the picture		G								
7. there is another horizontal rectangle					F					
8. about the same... than...		G								

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

9. The half square at the bottom		G			F						
0. about a quarter of the high		G									
1. of the small square,					F						
2. below the big square		G			F						
3. attached very left,		G									
4. so parallel the left hand side of the big square.		G			F						
5. Two lines a little wall.					F	S					
6. I think.										R	
7. In the bottom left of the two small squares,		G			F						
8. into the big square divided into thirds,		G			F						
9. the line dividing between the top third		G									
0. and the middle third,		G									
1. horizontal line just out					F						
2. about third length of the big square.		G			F						
3. In the end of that		G									
4. there is a vertical line.					F						
5. Rectangle across,					F						
6. through that there is a horizontal line.					F						
7. Curve in the end up side down.		G			F						
8. On that left hand side of the cross,		G				S					
9. a little face.						S					
0. Two eyes and a nose a little moustache.						SSS					
1. It's like an umbrella handle						S					
2. just touching the middle line.					F						
3. Umbrella handle,						S					
4. a little face.						S				R	
5. There's a little,		G									
6. half way down big square on right,		G			F						
7. there's a tiny blob.						S					
8. Like D						S					
9. just attached on the side,		G									
0. running along with the line		G			F						
1. that divides it in half horizontally,		G									
2. little square.					F						
3. So that's a sketchy style,						S					
4. scribbled lines here and there			G								
		39				31	18	2			
		90									

FIRST YEAR session 02 - Description 01 (Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
	1. It's a plan drawing.						S				
2. A rectangle to just start with.					F						
3. Draw a line S					F	S					
4. 1/8 of the way down.		G									

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

5. Side to side, split it in half.	G								
6. Not long ways but width ways.	G								
7. Under the second half	G								
8. split rectangles into two squares				FF					
9. And below that is another square	G			F					
10. that comes half way down	G								
11. from the second rectangle.				F					
12. It's really difficult...oh God.						R			
13. At the bottom of the square you just draw,	G			F			R		
14. extend the line across				F					
15. so it looks like another segment.				F					
16. Just like a rectangle.				F					
17. So it runs from one side	G								
18. to the other width ways.	G								
19. By doing that line,				F					
20. you have created another box effectively						S			
21. and now wants to split into thirds	G								
22. width ways across.	G								
23. Below the square you have just drawn				F			R		
24. and split in thirds,	G								
25. you need to draw two rectangles				F					
26. the same width and lengths	G								
27. as the third above it.	G								
28. Oh God.						R			
29. Draw a line out from one of the squares.				FF					
30. Extending the perimeter of the rectangle.				F					
31. Draw a rectangle.				F					
32. Split it in half width ways.	G								
33. You now have two rectangles.				F					
34. Bottom rectangle				F					
35. split into two squares length ways.	G			F					
36. You now have a rectangle				F					
37. split into thirds length ways.	G								
38. So you have three long rectangles.				F					
39. Put two more rectangles the same length	G			F					
40. and width as the ones above it.	G								
41. Whole rectangle.				F					
42. Split it in half.	G								
43. Bottom rectangle split into two squares.				FF					
44. Split one of the squares into thirds.				F					
45. So you've got three rectangles.				F					R
46. Below that square				F					
47. are two more rectangles				F					
48. of the same width and length	G								
49. that fit into the square above it.				F					
50. So you now have three thirds in that square.				F					
51. Put two rectangles				F					
52. the same size directly below it.	G								
53. In the right hand square				F					
54. is a rectangle				F					
55. that's about a quarter of the length across.	G								

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

56. Oh God.							R			
57. You have your large rectangle					F					R
58. and you have square					F					R
59. on the right hand side.		G								
60. There is a smaller rectangle					F					
61. what is about a quarter width of the square		G			F					
62. and is about an eight (1/8) in		G								
63. from the left hand side		G								
64. and three eight (3/8) in		G								
65. from the right hand side.		G								
66. Oh God.							R			
67. From the bottom of the rectangle,					F					
68. a line extends beyond the width		G			F					
69. of the original rectangle.					F		R			
70. A small square					F					
71. is drawn at the end of that line.		G			F					
72. So a line ends in the middle		G			F					
73. of the little square that you had to draw.					F					
74. In the top rectangle					F					
75. that has no squares in,					F					
76. at the right hand side,		G								
77. running from top to bottom		G								
78. is a rectangle					F					
79. that begins a quarter of the way down		G								
80. and is an eight (1/8) of the width		G								
81. of the rectangle.					F					
82. Oh God.							R			
83. Have you drawn that rectangle?					F			R		
84. You got a main rectangle					F					
85. that has been split in half.		G								
86. You have a line					F					
87. extending from one end to the other.		G								
88. There are some squiggles along that line			G							
				39		53		3		12
										107

FIRST YEAR session 02 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. The paper is turned,	G									
2. so you have a A4 sheet of paper.	G									
3. So it's long ways.		G								
4. At the bottom of the sheet		G								
5. draw an oval shape.					F					
6. As if you were drawing a pond on a plan.						S				
7. Coming out of that pond are six sticks.			G			SS				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

8. They extend up at different highs.			G							
9. Look like an upside down tick.						S				
10. They are six of those.			G							
11. Two or three centimetres above that,		G								
12. another pond shape that's more oblong,					F	S				
13. slightly larger than the previously other one.		G						R		
14. Looks like pondweed						S				
15. growing from bottom pond						S				
16. and goes through one you've drawn above it.		G						R		
17. On the oblong pond you just drawn,					F	S		R		
18. you need three more of those ticks.						S				
19. About four centimetres above oblong pond		G			F	S				
20. is one tick on it's own.						S				
21. On top right hand side is a circle,		G			F					
22. like the sun						S				
23. shining down on the pondweed.						SS				
24. At the left hand side		G								
25. is a quarter of the sun.						S				
26. That's it.				G						
			14		5	15		3		
						37				

FIRST YEAR session 03 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflecti	Recap
1. A small circle on the right,		G			F					
2. top right corner.		G								
3. Slightly larger		G								
4. a kind of quarter circle,					F					
5. like a curve					F					
6. in the top left hand corner.		G								
7. A kind of rectangle,					F					
8. it's quite long and ...		G								
9. It's got a long side,		G								
10. it's horizontal.		G								
11. The horizontal quite long		G								
12. and the vertical line shorter.		G			F					
13. The rectangle is at the bottom of the page.		G			F					
14. Draw a large rectangle					F					
15. in the top end about that one.		G								
16. They don't overlap, by the way.			G							
17. Draw a one head arrow						S				
18. down the page in the middle,		G								
19. with the arrow pointing left.						S				
20. Draw a vertical line down the page,		G			F					
21. from 1/3 page down		G								

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22. and draw a vertical line					F					
23. in the middle the page.		G								
24. From the end of the line,		G			F					
25. not the bottom end		G								
26. but the top end of the line,		G			F					
27. draw a kind of arrow,						S				
28. but just one head of the arrow						S				
29. pointing left.		G								
30. Draw a long vertical line					F					
31. on the right hand side.		G								
32. A long one		G								
33. and then draw another head arrow point right						S				
34. Draw a shorter vertical on its right		G			F					
35. and then draw another arrow on its right.						S				
36. Draw two shorter vertical lines					F					
37. on its right hand side		G								
38. with the arrow point left.						S				
39. Draw a vertical line					F					
40. on the left hand side of the middle one		G								
41. and then draw another arrow						S				
42. on its right hand side.		G								
43. Draw a kind of vertical line,					F					
44. but not really, a kind of tilted.									R	
45. Draw right hand side and that one,		G								
46. that line is quite long					F					
47. and it's on the left hand side.		G								
48. Draw the arrow on its left hand side.						S				
49. Draw another kind of vertical line,					F					
50. but a shorter one on its left.		G								
51. Draw another shorter one vertical line					F					
52. on its left		G								
53. with the arrow pointing right.						S				
54. Draw another ...still length,		G								
55. kind of high up on its left		G								
56. and draw the arrow on its right hand.						S				
I think that's it.				G						
		33			19	11	1			
		64								

FIRST YEAR session 03 - Description 02 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. Draw a square on the paper					F					
2. but with some bit frame			G							
3. on its right side		G								
4. and bottom there,		G								

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

5. so you have space			G						
6. to draw another things there.			G						
7. Draw a large square on the page,					F				R
8. but with bit frame on its right side			G						R
9. and bottom of the square,		G			F				R
10. because there is some others bit			G						R
11. to draw there.			G						
12. Draw a rectangle.					F				
13. It's half the length of the square.		G			F				
14. It's below the square,		G			F				
15. kind of 1/3 down the square.		G			F				
16. It's a quite thin rectangle.					F				
17. One side of the rectangle					F				
18. is kind of connected to square,		G			F				
19. Draw a small square					F				
20. on the right hand side		G							
21. of the large one.			G						
22. Leave some gap			G						
23. between the large and the small square.					F				
24. Draw a horizontal line					F				
25. across the middle of the square.		G			F				
26. Draw a vertical line					F				
27. from the middle of horizontal line		G			F				
28. to the bottom of the square		G			F				
29. and it is on the middle.		G							
30. Now you got like a large square					F				R
31. with two other little squares					F				
32. at the bottom.		G							
33. On the square on left hand side		G			F				
34. draw two horizontals lines.					F				
35. You got three equal rectangles.					F				
36. Draw a horizontal line					F				
37. from the middle of the square		G			F				
38. to the middle of the small square.		G			F				
39. Draw a vertical line					F				
40. from the right hand side		G							
41. of the large square					F				
42. down to the middle horizontal line		G			F				
43. of the large square.					F				
44. It is not in the middle,		G							
45. it's near the edge of the right hand side.		G							
46. Just draw a vertical line.					F				
47. It's on the right hand side,		G							
48. actually in the square.					F				
49. Close to the right edge.		G							
50. Draw a vertical line					F				
51. from the top of the square		G			F				
52. down to the middle horizontal line.					F				
53. Draw a S shape,						S			
54. but a inverted S shape						S			
55. on the top of that line.		G			F				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

56. You've got a kind of a thin rectangle					F					
57. on the right hand side.		G								
58. Draw a inverted S shape						S				
59. on the top of the rectangle.		G			F					
60. I think that's basically it.				G						
		35			37	3	5			
		80								

FIRST YEAR session 04 - Description 01 (Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
. A plan of a room in L shape.						SS					
. A gap between the two alongators sides			G								
. of got they.			G								
. It is also a plan view.						S					
. There is a long rectangular room					F	S					
. within that plan.						S					
. This is cute across,		G									
. so you got two rectangles.					F						
. About one sixth down		G									
0. from the rectangle one					F						
1. draw a gap			G								
2. which close through the square one.					F						
3. Then a <i>diving body</i> in your right.						S					
4. A typical <i>diving body</i> .						S					
5. A big body						S					
6. witch is on the top of it.		G									
. It's also like a plan view.						S					
		6			4	9	0				
		19									

FIRST YEAR session 04 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
. On the top left corner is an arch		G			F						
. and opposite that		G									
. to your right of your paper		G									
. in the corner		G									
. is a circle					F						
. small than that arch circle will be.					F						

Sketching and visual perception in conceptual design
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. Right down the bottom		G							
. there is like a puddle,						S			
. just an ellipse,					F				
0. oval shape thing.					F				
1. From there			G						
2. you've got a long straight line					F				
3. going right		G							
4. going towards the circle					F				
5. but not, is near the circle					F			R	
6. but not right attached to the circle			G		F				
7. and then to your right		G							
8. is an arrow						S			
9. not just at one side,		G							
0. and on your right,		G							
1. just draw it on your right		G							R
2. not on your left		G							
3. so its like a hook or kind of thing						S			
4. and then draw the same thing			G						
5. in the middle		G							
6. from the oval thing					F				
7. going up		G							
8. but this time the arrow thing is on your left.						S			
9. Another of those lines,					F				
0. which point to the arch from					F				
1. the middle again of the old one.		G						R	
2. This time the arrow,						S			
3. well the half arrow thing						S			
4. is on your left again,		G							
5. so you've got like what looks like a hook.						S			R
6. On the left of the oval		G			F				
7. you've got another of those straight lines,					F				
8. but they only go half way to the top		G							
9. and then your hook thing						S			
0. is on your right this time.		G							
1. Another one of that,			G						
2. the last one,			G						
3. should be at the edge of the paper		G							
4. so next one is close to the middle		G							
5. but not in the middle		G							
6. and not at the edge,		G							
7. the arrows is on your left,						S			
8. then on your right to the oval		G			F				
9. draw the same arrow going half way out						S			
0. straight to the top		G							
1. and like you've got the hook on your left.						S			
2. About 1 tenth up to the top arch		G			F				
3. and the circle looks like a trapezium					FF				
4. but not like,								R	
5. rectangle but not like, trapezium.					FF				
6. Like you've got curved,					F				
7. its like the oval					F				

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8. but like a more rectangle actually,					F					
9. like draw an oval shape					F					
0. but more like a rectangle,					F					
1. like you've got four sides to it,			G							
2. and its like miscued.			G							
3. On the left of this shape,		G								
4. draw one more straight line,					F					
5. like half way up again,		G								
6. then draw the hook on your right,							S			
7. and then on the right of this shape		G								
8. draw the same kind of shape,			G							
9. the same line					F					
0. and then your hook is on your left.							S			
1. Above the shape,		G								
2. not in the shape, above the shape,		G								
3. draw one more straight line					F					
4. so you've got an hook							S			
5. on your right this time		G								
6. so in totally			G							
7. you should have 10 of these hook things			G				S			
8. 6 of which starts from the oval.			G		F					
9. Three from the rectangle oval shape					F					
0. and then one above the rectangle oval.					F					
1. So it looks a bit like a face,							S			
2. like you've got an eye going like an arch					F		S			
3. and then you've got a circle							S			R
4. and then you've got a hook thing							S			R
5. and the oval is the mouth					F		S			
6. and the rectangle thing is the nose					F		S			
7. and you've got one circle as the eye					F		S			
8. and the arch like a bruised eye or something.					F		S			
			42		36	23		7		
						108				

FIRST YEAR session 05 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. There are a lot of vertical lines			G		F					
2. and at the top of the vertical					F					
3. there is a diagonal line					F					
4. touching the top of the line.					F					
5. Like a flag.						S				
6. There is circle					F					
7. at top right hand corner		G								
8. and top left hand corner		G								

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

9. there is one fourth of the circle,					F					
10. like a sun						S				
11. you see in a little kids pictures.						S				
12. Just a circle,					F					
13. a quarter of the circle					F					
14. cutting one edge to other edge to the page.		G								
15. On the corner,		G								
16. left hand corner.		G								
17. Also there are a couple of ovals shapes,					F					
18. not really oval,					F				R	
19. but a kind of kids' oval shapes.					F	S				
20. There are two of them.			G							
21. One start on the bottom left hand side		G								
22. to right hand side.		G								
23. So there are oval shapes there.					F					
24. Above that there is another oval shape.		G			F					
25. Slight bigger.		G								
26. This oval shapes cut through the vertical lines.					FF					
27. Don't think I can see anything else.				G						
28. A lot of vertical lines.			G							R
29. Eleven vertical lines.			G							
30. Like flags on the top.						S				
31. Triangle flags on the top.						S				
			14		15	6			2	
						37				

FIRST YEAR session 05 - Description 02 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
	1. This is a plan drawing.						S			
2. More like a plan sketch.						S				
3. Very massive.			G							
4. What you see is a big square.					F					
5. So draw a big square.					F					
6. You have a line					F					
7. cutting through the square,					F					
8. from the left side to the right side,		G								
9. horizontally on the middle.		G								
10. So you have two rectangular boxes.					F	S				
11. Box shapes now.						S				
12. On the top rectangle					F					
13. on the right side,		G								
14. touching the wall,						S				
15. you have a little bed.						S				
16. Looks like a bed.						S				
17. Is drawing in the short side			G							

Sketching and visual perception in conceptual design
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18. of the rectangle.				F					
19. Just draw a little small bed.					S				
20. A plan drawing, so like study.					S				
21. Then from the middle of the square.				F					
22. the exact middle of the square,				F					
23. touching the line that cuts the square,				FF					
24. draw a line downwards		G		F					
25. splitting the bottom rectangle				F					
26. into two squares.				F					
27. Then in the bottom left square		G		F					
28. draw two horizontal lines,				F					
29. splitting the bottom left hand square		G		F					
30. into three even rectangles.				F					
31. Same size rectangles.				F					
32. At the bottom of the left square,		G		F					
33. out side of the big square,		G		F					
34. out side,		G							
35. you have another rectangle,				F					
36. which the long part			G						
37. starts in the bottom		G							
38. of the left hand square to the right		G		F					
39. into the middle part the square, basically.				F					
40. It's parallel lines				F					
41. to the bottom side of the square,		G		F					
42. make the rectangle.				F					
43. So parallel to the square.				F					
44. In the middle of the box					S				
45. of the big square,				F					
46. just in the middle towards,		G							
47. a little bit towards the bottom the square,		G		F					
48. draw a sort of axes.					S				
49. Like maybe ¼ axes					S				
50. just across that area.			G						
51. Maybe some massive squiggles				F					
52. I can't describe this.						R			
53. Then on the right side of the big square,		G		F					
54. a little bit underneath where split.		G							
55. Basically I'm talking								R	
56. about the bottom right hand square,		G		F					
57. you have two lines perpendicular				F					
58. to the right hand square				F					
59. extend out side of the square.		G		F					
60. Two lines,				F					
61. what ever you understand.								R	
62. You stop those lines				F					
63. maybe a quarter of the total length			G						
64. of the side of the square.				F					
65. Quite short lines.				F					
66. Where exactly you finished those two lines		G		F					
67. just draw another square.				F					
68. Very small square.				F					

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

69. That's all.				G						
70. Too difficult, crazy.							R			
	25			43	12	4				
	84									

FIRST YEAR session 06 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. I see two abstract organic shapes.			G							
2. Like ponds						S				
3. on the bottom of the drawing.		G								
4. The top one,		G								
5. the one which I'll describe this way			G							
6. is the larger		G								
7. and the one in the bottom		G								
8. is the smaller one.		G								
9. They are sausages like shapes.						S				
10. The top of the picture		G								
11. there is one that is like the sun.						S				
12. It's a full boll						S				
13. and in the top left		G								
14. is one that looks like a larger sun,						S				
15. but it is cut out,		G								
16. you can see a quarter on the page.			G							
17. Coming up from the pond like shape						S				
18. are look like reeds.						S				
19. They also look like ticks upwards around.						S				
20. So is a long vertical section					F					
21. and a shorter section		G								
22. pointing to the ground.		G								
23. Like a triangle.					F					
24. There are ten of this.			G							
25. They are arranged.			G							
26. There are six in the small pond like shape.			G			S				
27. Three in the further away larger pond like shape						S				
28. and a couple more beyond that.			G							
29. They all vary in size and shape.			G							
	18			2	10	0				
	30									

FIRST YEAR session 06 - Description 02 (Architectural sketch)

Verbal Cognitive Actions

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. This drawing looks like a very sketching						S				
2. plan of a building.						S				
3. The main body of that			G							
4. is a square object in plan.					F	S				
5. The out lines of the square,					F					
6. is a very rough sketch,						S				
7. like made in a hurry.								R		
8. There are all borders by double lines,					F					
9. the square.					F					
10. They not very meet.			G							
11. There is a very small square					F					
12. at the right hand side		G								
13. of this main large square body.					F					
14. It's approximately in the middle		G								
15. of the right hand side		G								
16. and in a small distance out.		G								
17. It's connected at the main large square					F					
18. by what look like a wall in plan.						S				
19. Double lines.					F					
20. There are some sketch details						S				
21. inside the large square.					F					
22. It's divided into two			G							
23. by one straight line.					F					
24. A horizontal line in the middle.		G			F					
25. In the left lower quadrant		G								
26. there is a small horizontal line.					F					
27. Two even in the space down			G							
28. of the bottom of the square.		G			F					
29. There are some 'un-referring' crosses, taxes, dots					F	SS				
30. just under the central horizontal line.		G			F					
31. To the bottom of the square		G			F					
32. there is a rectangle					F					
33. which is longer that taller.		G								
34. It's in the side of left edge of the square.		G			F					
35. Just below.		G								
		16			18	8	1			
		43								

FIRST YEAR session 07 - Description 01 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

1. Basically this sketch is a plan of a room						S				
2. with several other rooms.						S				
3. A plan of a building,						S				
4. quite sketchy.						S				
5. Draw a rectangle long						F				
6. going across page.		G								
7. Have your page landscape?	G									
8. Draw about six or seven cm,		G								
9. just one line						F				
10. going across horizontally.		G								
11. That's the long side of the rectangle.						F				
12. The width the rectangle going down		G				F				
13. is about three and a half or four cm.		G								
14. On the bottom right hand corner		G								
15. of that rectangle,						F				
16. draw another rectangle,						F				
17. which is like vertically up.		G								
18. Looks like a bed,						S				
19. a bed with the pillow.						SS				
20. It's against the right hand wall,						S				
21. goes up		G								
22. about until half cm to the top.		G								
23. The bottom hand corner		G								
24. comes out a cm of the bed		G				S				
25. and goes up to half cm to the top		G								
26. and got a pillow included in that,						S				
27. which is about a cm deep.		G								
28. So the bed is a continuous rectangle one.						F	S			
29. vertical in the right hand side		G								
30. with a pillow.						S				
31. Just draw a bed						S				R
32. as you imagine with a pillow.						S				
33. About a cm width		G								
34. and about three cm high.		G								
35. Stop just in the right hand corner,		G								
36. in the corner against the right wall.						S				
37. Then draw another rectangle						F				
38. below the one you got,		G							R	
39. the main one.		G								
40. The same again.		G								
41. So go down		G								
42. another three and a half cm		G								
43. and across the same distance again.		G								
44. So you now got double the square.						F				
45. Like two rectangles in the same,						F				
46. touching each other on the long side.		G								
47. Divide that rectangle in half vertically.		G								
48. So like in a middle vertically.		G								
49. Then divides the left hand section of that		G								
50. into thirds horizontally		G								
51. with two lines.						F				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

52. So, then taking the right hand thing of that,	G								
53. it's like a square now.				F					
54. Extending the top of the thirds.	G								
55. You got the thirds in the left.	G						R		
56. Take the top of those two lines				F					
57. you drew in the middle.							R		
58. Extending about a cm	G								
59. into the square in the right side.				F					
60. They get up about half cm	G								
61. and they go across to the wall,						S			
62. to the right wall,						S			
63. horizontally.	G								
64. The same distance again,	G								
65. through the wall.						S			
66. So a line coming out				F					
67. through the wall.						S		R	
68. Then draw a square,				F					
69. about a cm square	G			F					
70. in the end of that line,	G			F					
71. outside the rectangle,	G			F					
72. the right side out of the two rectangles.	G			F					
73. Ok, almost finished.			G						
74. Then draw in that line,				F					
75. horizontal line that goes out,				F					
76. draw a little line about,				F					
77. should be about a half cm.	G								
78. Extend the bed down,						S			
79. like the bed sticking the wall.						SS			
80. Just one line.				F					
81. Below the bottom of the whole drawing,	G								
82. take the left hand side of the large object.	G								
83. Extend line down	G								
84. about two cm.	G								
85. Then go across to the middle point,	G								
86. like level						S			
87. and go vertically to the bottom of that.	G								
88. Horizontally,	G								
89. so level in the middle.						S			
90. Level in the middle like you drew down						S		R	
91. in that rectangle above,				F					
92. about two and a half cm.	G								
93. Then go from that,	G								
94. go up half cm	G								
95. and then back	G								
96. to the right hand side.	G								
97. So kind of a little rectangle,				F					
98. almost the same shape	G								
99. as bed you drew early,						S		R	
100. but the other way round	G								
101. at the bottom.	G		G						
102. That's it.									

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

	58	26	26	7
	117			

FIRST YEAR session 07 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflecti	Recap
1. This is not a room.						S				
2. Is more like a golf wind or something.						S				
3. First of all draw a box						S				
4. about eight or ten cm across		G								
5. horizontally.		G								
6. Have you the page landscape again?	G									
7. Eight cm and then down about twelve cm.		G								
8. Make a rectangle like that,					F					
9. vertically up the rectangle.					F					
10. This is the frame of your picture.			G			S				
11. In the top right hand corner		G								
12. about half cm from each side,		G								
13. draw a circle like a sun,					F	S				
14. about a cm in diameter.		G								
15. In the top right hand corner		G								
16. of the rectangle you drew,					F			R		
17. draw a sun						S				R
18. about one cm diameter		G								R
19. and half cm in.		G								
20. Just a circle.					F					
21. Top left hand corner		G								
22. draw a quarter of a circle.					F					
23. Comes from the top.		G								
24. In the top left		G								
25. there is a quarter of a circle.					F					R
26. This circle is about two cm in radius.		G			F					
27. So a quarter of circle there,					F					R
28. in the top left hand corner.		G								
29. Then in the bottom of the rectangle,		G			F					
30. across the bottom,		G								
31. draw like a oval shape,					F					
32. landscape.		G								
33. Its width in the middle		G								
34. is about one and a half cm		G								
35. and goes almost the edge of each one.		G								
36. Like a golf wind looked out from distance,						S				
37. so like a ellipse.					F					
38. Above that draw another one.		G								
39. Goes even close to the edge		G								
40. of the rectangle					F					

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

41. and its got two cm high.		G							
42. It's more like a square,					F				
43. its got curved edges		G							
44. but it's more like a square					F				R
45. with out corners.		G							
46. Now there are ten flags like that.						S			
47. The flags are drawn						S			
48. like just vertical lines.					F				
49. You know when you draw								R	
50. a properly number one.						S			
51. You draw a vertical line					F				
52. with a little dash in the top						S			
53. and a little dash in the bottom.						S			
54. Take the dash of the bottom						S			
55. and that what it looks like.			G						
56. Starts on the right,		G							
57. this is on the top ellipse.					F				
58. The higher ellipse,					F				
59. starting near the top right hand corner of that,		G							
60. goes up about three cm		G							
61. and the dash in the top						S			
62. goes diagonally down to the left.		G							
63. Next one starts on the top right hand		G							
64. of the bottom ellipse.					F				
65. So slightly inside that one,		G							
66. goes up		G							
67. slightly under the other one,		G						R	
68. about four cm		G							
69. and diagonally down		G							
70. to the left again the dash,						S			
71. and the dash is about one cm long.		G				S			
72. Next is in the top ellipse again,					F				
73. is about one and a half cm		G							
74. in front the right hand side.		G							
75. Goes straight up about three cm		G							
76. and has a quite long dash						S			
77. to the right hand side this time.		G							
78. Next one is very long			G						
79. and right to the bottom,		G							
80. almost in the middle,		G							
81. slightly in the right middle		G							
82. of the bottom ellipse.					F				
83. Goes right up		G							
84. almost to the sun,						S			
85. like to the bottom of the sun.		G				S			
86. The dash goes down to the right,						S			
87. quite deep,		G							
88. almost touching the sun						S			
89. and goes up there.		G							
90. Just in the left of it,		G							
91. a cm right going straight to the sun.		G				S			

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

92. Move your pen,									R	
93. get your pen in the bottom		G								
94. where you just drew,								R		
95. about a cm to the left		G								
96. and draw another one		G								
97. about the sane high,		G								
98. about one cm less		G								
99. and the dash goes to the left this time,						S				
100. diagonally down.		G								
101. The next one starts above the top ellipse,		G			F					
102. about a cm above the top ellipse		G			F					
103. and about a cm left the wind you did,		G						R		
104. and its only two and a half cm long		G								
105. and the dash goes to the right.						S				
106. So floating in the air.						S				
107. The next one is slanted slightly		G								
108. and starts almost the same point,		G								
109. like the last one		G								
110. in the bottom ellipse started.					F					
111. Slightly up		G								
112. and goes diagonally left		G								
113. about five or ten degrees		G								
114. or something, no much.									R	
115. Goes up		G								
116. almost touching the quarter circle					F					
117. and has one and a half cm or two cm dash						S				
118. going out to the left.		G								
119. Three more to go.			G							
120. The next one starts in the top early		G								
121. of the bottom ellipse.					F					
122. In the top of it		G								
123. about half cm left		G								
124. to the last one you drew,								R		
125. slightly a little bit but not quite much,		G								
126. a kind of converging on the other one.			G							
127. Doesn't touch it.			G							
128. It goes about three and a half cm		G								
129. down in the top ellipse					F					
130. but about one cm.		G								
131. Has a long dash about one and a half cm,					F					
132. quite to the left.		G								
133. Last in the bottom ellipse		G								
134. starts quite early in the edge		G								
135. of the bottom ellipse,					F					
136. in the middle.		G								
137. Goes up,		G								
138. not quite out of the top ellipse					F					
139. and has a dash diagonally						S				
140. to the right slightly.		G								
141. The last one is in the top ellipse,					F					
142. starting very close to the edge of it,		G								

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

143. about a mm of the left edge.		G								
144. Goes up vertically,		G								
145. not crossing that way		G								
146. but across,		G								
147. goes up about three cm		G								
148. and has a three or four cm dash		G					S			
149. to the right side.		G								
150. That's all.					G					
		95			32	28	13			
		168								

FIRST YEAR session 08 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1. These are lines.					F						
2. It's an abstract picture.			G								
3. There is a circle,					F						
4. what I mean is an ellipse one					F						
5. and there are lines going upwards					F						
6. with arrows,						S					
7. half arrows on it.						S					
8. Above the ellipse		G			F						
9. there is a rectangular form,					F						
10. which edges are in a circular form.		G									
11. Also from this rectangular form					F						
12. there are lines					F						
13. with upwards arrows,						S					
14. half arrows on it.						S				R	
15. So in the top right hand corner		G									
16. there is a circle.					F					R	
17. Small circle.					F						
18. On the left hand corner		G									
19. I see just a curve flying,					F	S					
20. which comes from the top of the page		G									
21. to the left end of the page.		G									
22. A curve flying.					F	S				R	
23. Also those lines going upwards.											
24. Ten lines going upwards.					F					R	
25. Six lines are going upwards			G		F						
26. from the ellipse in the bottom.		G			F						
27. Three are going from the rectangular shape					F						
28. above the ellipse.		G			F						
29. Only one of those is off the rectangular shape,		G			F						
30. not included in the shape.			G								
31. That's all I see.				G							

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

	13	18	6	4
	41			

FIRST YEAR session 08 - Description 02 (Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgme	Remem	Reflect	Recap	
1. It looks like a plan.						S					
2. Drawing in a square.					F						
3. a big square.					F						
4. From the bottom of this square		G			F						
5. there is a rectangle shape,					F						
6. which comes one end to the middle		G									
7. of the bottom line.					F						
8. It's like two cm.		G									
9. In the square,					F						
10. in the right bottom,		G									
11. to your upper line,					F						
12. I see a small square scratching.					F						
13. There is a line					F						
14. connecting the middle points of the sides,		G									
15. left and right sides.		G									
16. From this middle line,					F						
17. one cm down,		G									
18. another line.					F						
19. There is also in the middle lines					F						
20. a rectangular shape					F						
21. going from the middle line					F						
22. towards two cm.		G									
23. In the right side of this big square,		G			F						
24. I see a line					F						
25. extending from the middle line two cm.		G			F						
26. In the end of it		G									
27. there is a little square,					F						
28. just like one cm side.		G									
29. From the square in the right end					F						
30. of the upper corner,		G									
31. I see a line extending					F						
32. to the middle line of the big square.		G			F						
33. I see some scribbles in those middle lines,					F						
34. with one cm in the middle.		G									
35. I see some sketching things inside,						S					
36. some lines.					F						
37. That's all I see.				G							
	16				23	2	0				
	41										

FIRST YEAR session 09 - Description 01 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. Start with a square.					F					
2. In the top right hand corner		G								
3. about three mm down,		G								
4. draw a rectangle					F					
5. going from the right hand side to the left		G								
6. making about a cm width		G								
7. and go down		G								
8. about half way the square.					F					
9. Draw a line					F					
10. from a horizontal angle,		G								
11. half way down the square.					F					
12. Divide the bottom half into half again		G								
13. but vertically.		G								
14. In the left hand bottom square you just made,					F			R		
15. divide it in thirds horizontally.		G								
16. In the very bottom		G								
17. of the main square you just drew,					F			R		
18. has a rectangle					F					
19. detached on the main square		G			F					
20. about half cm of the way.		G								
21. It's long rectangle					F					
22. going horizontally.		G								
23. In the bottom right hand square,					F					
24. in the main square,					F					
25. there is a small rectangle					F					
26. in the top of it.		G								
27. From that rectangle					F					
28. there is a line					F					
29. going out of the main square					F					
30. to the right		G								
31. and there is a small square					F					
32. attached on the end of that line.		G			F					
33. In the bottom left hand small square					F					
34. that you drew in the main one,								R		
35. the top rectangle,					F					
36. about half way down that one,		G								
37. there is a line					F					
38. going from the right hand side		G								
39. to the left hand side,		G								
40. half way across.		G								
Total	20				21	0	3			
44										

FIRST YEAR session 09 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1. In the middle of the page		G									
2. towards the bottom		G									
3. draw a oval shape.					F						
4. It's quite long		G									
5. going horizontally.		G									
6. Above that, a little bit above that,		G									
7. draw a rectangle					F						
8. with rounded edges,		G									
9. but drawing horizontally.		G									
10. From the bottom oval shape					F						
11. there is a line going,					F						
12. there are a lot of lines					F						
13. but the first is on the right hand side		G									
14. and going vertically upwards.		G									
15. Draw it going and passing		G									
16. the rectangle over bit.					F						
17. The line goes back on itself diagonally					F						
18. a little bit towards the left.		G									
19. There is another one of those			G								
20. of the same shape		G									
21. going through the rectangle above,					F						
22. just underlining the line you just drew.					F			R			
23. To the left of that line		G			F						
24. there is another line,					F						
25. another shape		G									
26. like this one you just drew,								R			
27. but is a reflection.						S					
28. To the left of that one		G									
29. there is one going			G								
30. from the bottom oval and still a little					F						
31. the line you just drew					F			R			
32. and that one defect itself to the other line.					F						
33. The next one goes,			G								
34. it's just one more of those			G								
35. and goes back itself to the left.		G									
36. The next one starts higher than that rectangle		G			F						
37. with rounded edges		G									
38. and goes back itself to the right		G									
39. and it's shorter.		G									
40. The next one with slightly angle		G									
41. going to the bottom oval upwards					F						
42. and goes back itself to the left.		G									

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

43. The next one goes from the bottom oval also					F					
44. but not as high the last one you just drew		G						R		
45. and goes back itself to the left.		G								
40 6One next that one, goes from the bottom oval.					F					
47. Goes and stop inside the rectangle		G			F					
48. with rounded edges		G								
49. and goes back to the right.		G								
50.The next one is just in the edge of the rectangle		G			F					
51. with the rounded edges		G								
52. and goes up.		G								
53. It's a short one		G								
54. and goes back itself to the right.		G								
55. Imagine if you do a rectangle					F				R	
56. around everything you drew.			G					R		
57. In the top right hand corner		G								
58. there is a small circle.					F					
59. In the top left hand corner		G								
60. there is a quarter of the circle drawn.					F					
		39			23	1	6			
		69								

FIRST YEAR session 10 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1.Ok, so it's portrait.	G										
2.On the top right hand corner		G									
3.you need to draw a circle,					F						
4.which is about maybe five of this circle		G			F						
5.down the page,		G									
6.so a fifth of the page.		G									
7. So a circle like this.					F					R	
8.On the top left hand corner,		G									
9.you need to draw a quarter of the circle					F						
10. from one side the page to the top of the page		G									
11. and that needs to be a third of the page.		G									
12. At the bottom of the page		G									
13. it's an oval shape					F						
14. but it's not a perfect oval shape,					F				R		
15. looks like a pound.						S					
16. Even in the end of the oval					F						
17. it's slightly flatted,		G									
18. it's not a perfect shape.									R		
19. It's whole width the page.		G									
20.It's again a fifth of the proportion of the portrait,		G									
21. if it is a portrait.		G									
22. Above this is another oval shape					F						

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23. but at the ends this is flatted at this time.	G								
24. It is an oval shape with flatted ends.				F					
25. At the top and the bottom	G								
26. it is flatted as well.	G								
27. So it's more like a rectangle				F					
28. with the rounded corners.	G								
29. Again it is whole width of the page	G								
30. and just slightly bigger than the last one,	G						R		
31. just our fifth of the high of the page.	G								
32. Working from left to right	G								
33. there is a series of straight lines.				F					
34. Much of them are pretty much vertical		G		F					
35. but there is a slightly angle	G								
36. on some of them.		G							
37. They look like arrows,					S				
38. as you draw an arrow.					S				
39. They all are pointing upwards		G							
40. but as you got one side of the arrow on them.					S				
41. So draw an arrow					S				R
42. with two diagonals lines				F					
43. and one vertical line,				F					
44. as you got just one diagonal line of each line.				F					
45. The first one is on the left hand side of the page,	G								
46. starts about a third way up from the top.	G								
47. Draw a strait line there				F					
48. and the diagonal part of the arrow					S				
49. goes to the right.	G								
50. The second one is the same length	G								
51. but it is slightly close to the bottom of the page	G								
52. and again the diagonal line				F					
53. goes to the right.	G								
54. So the same length,	G								
55. close to the bottom of the page	G								
56. and the diagonal line goes to the right.				F					
57. The third one is slightly above the second one	G						R		
58. also slightly longer	G								
59. and the diagonal line is also longer				F					
60. and goes to the left this time,	G								
61. goes up the top the second one.	G								
62. The forth one is same length	G								
63. of the ethers three plus half.	G								
64. So it's like 50% bigger	G								
65. and the diagonal arrow					S				
66. goes down to the left.	G								
67. The fifth one is the same size as the first three	G								
68. This time it starts,		G							
69. the top of it	G								
70. is about a quarter of the way down the page	G								
71. and goes down	G								
72. about half way down the page,	G								
73. just half way down the page	G								R

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2. What we got here looks like an architectural drawing.					S				
3. It's a very sketchy drawing.					S				
4. probably towards by scanner.			G						
5. The lines have been drawing					F				
6. and redrawing again.			G						
7. The drawing is basically a box shape,					S				
8. almost square,					F				
9. slightly longer than its wide.		G							
10. Basically it's a box					S				
11. with another rectangle just below.					F				
12. At the right of this box		G			S				
13. there is another very small box.					S				
14. Now I'll try to describe it.								R	
15. If you draw in your landscape page	G								
16. one vertical line					F				
17. about half width		G							
18. in front the page		G							
19. and I want it about few mm long.		G							
20. One vertical line,					F				
21. you can make it a bit sketchy					S				
22. towards the top and the bottom.		G							
23. Not too sketchy.								R	
24. From the top of that line					F				
25. draw a horizontal line					F				
26. and this is slightly shorter than the last line.		G						R	
27. The same exactly line					F				
28. from the right end of that one.		G							
29. Draw another vertical line					F				
30. that starts to create a box.					S				
31. Then drawing the box.					S				
32. So you have a little tail					S				
33. hanging out		G							
34. from the bottom left hand corner.		G							
35. That should be about a finger width,		G							
36. this little tail.					S				
37. Half way down this little tail,		G			S				
38. draw a horizontal line					F				
39. half way across the length of the box.		G			S				
40. Just one line ok?					F				
41. Now from the end of this tail,		G			S				
42. draw the same length one.		G							
43. Draw the two together			G						
44. with two lines on the end					F				
45. with about two little half.		G							
46. At the top right hand corner		G							
47. of the main square you drew,					F			R	
48. there is shape		G							
49. similar to the shape you drew								R	
50. to the bottom left of the square.					F				
51. It's vertical this time		G							
52. and it's in right hand corner.		G							

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53. So you draw that similar shape	G								
54. half way down	G								
55. and it is a finger width.	G								
56. In the top right hand corner	G								
57. and it's vertical.	G								
58. On the top of this shape	G								
59. there is a sort of scribble S,					S				
60. a very, very flatted S shape.					S				
61. If you do that very, very flatted S					S				R
62. starting from the left hand side	G								
63. and then goes round	G								
64. and again with another tail on the bottom.					S				
65. On the bottom left hand corner	G								
66. on your square,				F					
67. there is a similar shape	G								
68. that shape you drew below the box.					S		R		
69. It's the same high	G								
70. but slightly shorter,	G								
71. so doesn't quite half way across.	G								
72. So if you drew that,							R		
73. one is on the tail of your square				F	S				
74. and this is slightly shorter	G								
75. but the same width,	G								
76. inside the box.					S				
77. Above this,	G								
78. another box with the same length	G				S				
79. but 50% bigger,	G								
80. no 50% wide, I'm sorry.	G							R	
81. There is another of the same size,	G								
82. which should take half way up the page,	G								
83. sorry half way up your main square.				F				R	
84. It's also a horizontal line,				F					
85. which divides your square into two,				F					
86. right the way across it.	G								
87. It's the same width	G								
88. as the shape on yours square.				F					
89. If you take that width,	G								
90. that below that horizontal line				F					
91. you should drew across the square.				F			R		
92. So it's the width of the shape	G								
93. of the tail of your square,				F	S				
94. down the horizontal line				F					
95. through the square.				F					
96. Half way through the square	G			F					
97. there is a line				F					
98. that comes from a quarter way	G								
99. through the square.				F					
100. On the right hand side	G								
101. a quarter way through the square,				F					
102. sorry three quarters way through the square.				F				R	
103. So it's all on the right hand side	G								

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104. and it goes out		G							
105. about half the width of the square.		G			F				
106. So just one line goes inside the square					F				
107. to out side the square.					F				
108. So the line is half-length of the square		G			F				
109. and goes from three quarters of way		G							
110. through the square					F				
111. to about half way out.		G							
112. On the end of this line		G			F				
113. there is square,					F				
114. which is about a cm square.		G			F				
115. About a cm square.					F				R
116. You should have three rectangles					F		R		
117. on the bottom left hand corner		G							
118. of your big square.					F				
119. In the top rectangle,					F				
120. on the left hand side of it,		G							
121. has been drawing like an X.						S			
122. There is an X.						S			
123. On the right hand side of the X		G				S			
124. is a drawing that what had been very quickly.			G						
125. Just to the right of this		G							
126. there is a Z,						S			
127. but the Z has been drawing on its side.						S			
128. So looks like a back-front N,						S			
129. if you know what I mean.								R	
130. If you turn the page portrait,	G								
131. it looks like a Z.						S			
132. The very top line of this main square					F				
133. is the most sketchy line of all drawing.			G			S			
134. Quite sketchy,						S			
135. it's a pen drawing			G						
136. but still quite sketchy.						S			
137. The right hand side of this square,					F				
138. at the bottom,		G							
139. half way up from half way down		G							
140. to the bottom,		G							
141. at the right hand side of the square,					F				
142. it's all quite sketchy.			G			S			
143. From this horizontal line					F				
144. you drew half way through the square					F		R		
145. there is a rectangle slightly,					F				
146. not as width as the rectangle					F				
147. hanging down at the bottom of your square.		G			F				
148. It is also not as long,		G							
149. so you leave half cm from the middle		G							
150. and about one cm from the right hand side		G							
151. of yours square					F				
152. and just hanging down		G							
153. from that horizontal line.					F				
			78		52	34		16	

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

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FIRST YEAR session 11 - Description 01 (Architectural sketch)

Segments	Verbal Cognitive Actions									
	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1 - A plan of a house.						S				
2 - A plan floor.						S				
3 - Basically a square					F					
4 - in the middle of the page,		G								
5 - about ten cm by ten cm.		G								
6 - Horizontally		G								
7 - through the mid point of that line,					F					
8 - so half the square along the middle,		G								
9 - two rectangles in the square.					F					
10 - In the bottom half of it,		G								
11 - divide again vertically,			G							
12 - so you have two small squares.					F					
13 - So you got a big square					F					R
14 - slightly divided up			G							R
15 - into one big rectangle and two squares.					F					R
16 - Below the left,		G								
17 - the little square outside of the big square,					FF					
18 - you've got a small rectangle room,					F	S				
19 - which is about six cm long,		G								
20a bit longer of the width of the small square.		G			F					
21 - That's about one cm deep.		G								
22 - It's very sketchy,						S				
23 - so the underline has several lines on it.		G			F					
24 - Now you should have a big square					F					R
25 - divided up into one rectangle					F					R
26 - and two small squares					F					R
27 - and a kind of small rectangle					F					
28 - underneath the left hand of the big square.		G			F					
29 - And that left hand of the square,		G			F					
30 - it's also divided into three horizontally		G								
31 - with two lines,					F					
32 - horizontally in that space.		G								
33 - So it's divided into three little rectangles.					F					
34 - In the top little rectangle,					F					
35 - that's where I'm describing,									R	
36 - there are a kind of crosses						S				
37 - and little sketches.						S				
38 - You can do whatever you like it.									R	
39 - Now in the big rectangle at the top,					F					
40 - that's part of the big square,					F					
41 - in the right hand side of it,		G								

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

42 - there is like a bed structure					S				
43 - about one cm width	G								
44 - and it's kind of stuck on the right,		G							
45 - kind of wall.					S				
46 - It's a maybe vertical line				F					
47 - and then a small room					S				
48 - on the top of it,	G								
49 - like a pillow over here.					S				
50 - Maybe it's not a bed really.					S			R	
51 - That's in the top of the rectangle,	G			F					
52 - about one cm width	G								
53 - and goes all the way	G								
54 - follow the length of that big rectangle.	G			F					
55The last is coming up from the right square,	G			F					
56 - the small square in the big square.				FF					
57 - There is a line out,				F					
58 - sticking the big square.				F					
59 - A couple of lines				F					
60 - with about one mm long,	G								
61 - sticking out horizontally	G								
62 - about three cm again	G								
63 - and that's one cm down	G								
64 - from the middle line	G								
65 - that cuts up the big square.				F					
66 - Two cm along there	G								
67 - is little, little square				F					
68 - that is going attached	G								
69 - on the sticking out line				F					
70 - and it's about one cm by one cm.	G								
71 - In summary,									R
72 - what looks like a big square				F					R
73 - divided into two horizontally	G								R
74 and then divided vertically the bottom half.	G								R
75 The left square has got a lot of scribbles on it,				F					
76 - is in the top third of it.	G								
77 - It's divided into three.	G								
78 - Below that is a kind of rectangle	G			F					
79 - that is width of the square.				F					
80 -The right hand space	G								
80 - there is the thing	G								
82 - that is coming out of it to the right	G								
83 - with a little square on it.				F					
84 - On the top rectangle				F					
85 - you got that bed thing.					S				R
86 - It is summarizing.									R
		41		40	12		15		
					108				

FIRST YEAR session 11 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1 - What we have here is a sketch.						S					
2 - I'll just describe it first									R		
3 - before start doing anything else.									R		
4 - It looks a bit like two lakes						S					
5 - with a sort of funny trees						S					
6 - coming out of it		G									
7 - and a sun on the top						S					
8 - and a sort of arc on the left.					F						
9 - It's like a sketch						S					
10 - or what could be a illustration on sketchy.						S					
11 - The basic shape is a rectangle					F						
12 - that takes up middle of page.		G									
13 -The rectangle width is about ten cm again,		G									
14 - about around fifteen cm down		G									
15 - and ten cm across.		G									
16 - In the bottom of the picture		G									
17 - you've got a kind of lakes,						S					
18 - like oblong pounds.					F	S					
19 - Just one line.					F						
20 - Like the circle					F						
21 - but that should be splashed.		G									
22 - Like a pound.						S					
23 - You got one and there is a big one above.		G						R			
24 - If you draw those,									R		
25 - then on the top of the picture,		G									
26 - top right hand corner,		G									
27 - you've got a sun.						S					
28 - There is a circle					F						
29 - that could be a sun,						S				R	
30 - about two cm width.		G									
31 - The lakes in,						S					
32 - they stick up		G									
33 - all the length of the rectangle					F						
34 - but not touch the sides.		G									
35 - They are about eight cm width.		G									
36 - The bottom pound						S					
37 - is slightly smaller than the top one.		G									
38 -They are in third bottom half of rectangle.		G			F						
39 - Now you should have just like two lakes						S		R			
40 - like pounds						S					
41 - and a circle at the top right hand.		G			F						
42 - On the top left hand corner,		G									
43 - about four cm away from the corner,		G									
44 - you got an arc the circle					F						

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Annex V – Segments and verbal cognitive actions

45 - but it is a quarter of the circle				F					
46 - going across.	G								
47 - How can I describe?						R			
48 - Just cutting off the corner,		G							
49 - like when you were kid					S				
50 and you draw the sun in the corner of the picture.					S				
51 - It doesn't touch the sides of the rectangle,	G								
52 - just a arc of circle.				F					
53 - On the top of all it,	G								
54 - you got a lot of vertical lines				F					
55 - that come out from the two lakes.	G				S				
56 - They are about ten vertical lines.		G		F					
57 - They are not all complete,		G							
58 - straight up and got a slightly angle.	G								
59 There are four going up from the bottom lake		G			S				
60 - no hang on,								R	
61 - six going up from the bottom lake,									
62 - three going up from the top lake		G			S				
63 - and there is one going up	G								
64 - but it doesn't connect with the top lake.	G				S				
65 - It's hard than expected.						R			
66 - They are different lengths		G							
67 - but there are three in the middle	G								
68 - that are longer.	G								
69 They don't pass the all length of the rectangle	G			F					
70 -One goes up to the middle point of the circle	G			F					
71 - but in the left of the circle.				F					
72 -Another one points towards the semi circle arc you drew.				F			R		
73 - Those two start from the bottom lake.		G			S				
74 - There is one between those two as well,	G								
75 - but not as long as those two,	G								
76 - about one cm less long.	G								
77 - You got a forth one		G							
78 - from the left to the right	G								
79 - and with a tick a half of the rectangle.				F	S				
80 - Each one of these has like a little one		G							
81 - pointing to the other way.		G							
82 - It's got a line in the top of them,				F					
83 - like half of an arrow.					S				
84 - There are half of them pointing one way		G							
85 - and half pointing the other.		G							
86 - There are about five of those,		G							
87 which have the top of it pointing to the left		G							
88 - and five of them		G							
89 - which top arrow pointing to the right.					S				
90 - It's really hard to describe						R			
91 - which one is pointing in which way.		G							
92 - Let's try again from the left to right.							R		
93 - The far left one is a short one		G							
94 - from the top lake					S				
95 - and it's pointing to the right.		G							

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96 - The next one along to the right	G									
97 - is from the bottom lake						S				
98 - and pointing to the right.	G									
99 - The next one comes from the bottom lake						S				
100 - and pointing to the left.	G									
101 The next one comes from the bottom lake						S				
102 - and points up to the semi circle					F					
103 - and points to the left.	G									
104 - It's like one,						S				
105 - draw -a number one.						S				
106 - The next one along to the right	G									
107 - points to the right	G									
108 - and quite at the top	G									
109 -because it extends the most of the length.	G									
110 - The next is a long one,	G									
111 - points to the left	G									
112 - and comes from the bottom lake.						S				
113 - The next one along to the right	G									
114 - goes to the bottom lake up to circle					F	S				
115 - but doesn't touch it	G									
116 - and that points to the right.	G									
117 - The next points to the right	G									
118 - and goes from the top lake.						S				
119 - The next goes from the bottom lake						S				
120 - and points to the left.	G									
121 - The last one goes from the top lake						S				
122 - and points to the left.	G									
123 -I don't know if I can see any other thing.				G						
	69				22	36	12			
	139									

FIRST YEAR session 12 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1 - We got a abstract piece of art,						S				
2 - if you know what I mean.									R	
3 - In the centre of the page,		G								
4 - put in landscape form.	G									
5 - In the centre is a rectangle in portrait,					F					
6 - in the centre of the landscape page.	G									
7 - But still off in the left hand corner		G								
8 - by drawing a quarter of the circle					F					
9 facing towards the bottom right hand corner.		G								
10 - Then about an inch and a half		G								
11 - to the right of that,		G								
12 - draw a full circle					F					

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13 - about one and a half cm in diameter.	G								
14 - Then below that,	G								
15 - two inches	G								
16 - directly below the circle you just drew,				F			R		
17 - of the quarter circle and the circle,				FF					
18 - draw again about two inches width	G								
19 - and about a inch high.	G								
20 - It's a sort of rectangle				F					
21 - but with slightly curved edges.	G								
22 - It's got a flat side on the top and bottom,	G								
23 - but the side on the left and right	G								
24 - is pretty much curved.	G								
25 - Did you draw that?								R	
26 - About half cm below what you just drew,	G								
27 - draw an oval				F			R		
28 - that is slightly lower	G								
29 - than that one you just drew							R		
30 - and again about three-quarters inch high.	G								
31 - It looks like a golfing cream						S			
32 - with half head on.						S			
33 - Straight lines.				F					
34 - You've got six of those coming out		G							
35 - of the bottom oblong shape you did.				F					
36 -You go to the left hand side of the oblong shape	G			F					
37 - and draw a straight line up				F					
38 - into the top of the shape above it.	G								
39 - The half arrow facing towards the bottom right						S			
40 -I know that the arrows head going both sides						S		R	
41 - but just draw one side of it.		G							
42 - Do the same shape about the same size	G								
43 - on the left hand side	G								
44 - of the large shape on the top,	G								
45 - hanging out towards the quarter circle.	G			F					
46 - Next that,	G								
47if you go to the middle of the bottom shape,	G								
48 - draw two straight lines.				F					
49 - One about four inches	G								
50 - and one about three and a half inches,	G								
52 - straight up.	G								
53 - The long one goes to about the same high	G								
54 - of the full circle you made.				F			R		
55 - Basically on the middle	G								
56 - of the bottom oblong.				F					
57 - The one on the right	G								
58 - has the half arrow facing to the right						S			
59 - and one on the left	G								
60 - has the half arrow facing to the left.						S			
61 - In between the two lines you just drew,				F			R		
62 - in between the left hand line	G			F					
63 - and the first line	G								
64 - that comes up from the bottom oblong,				F					

Sketching and visual perception in conceptual design
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65 - draw two lines				F				
66 - going slightly inclined to the left.	G							
67 - One is coming directly		G						
68 - towards the quarter of the circle,				F				
69 - which is about three inches long	G							
70 and the other is about one and a half inches	G							
71 - going to the same direction.	G							
72 The arrowheads on this both face to the left					S			
73 - and are about two cm long each.	G							
74 - The one on the bottom	G							
75 - is the most flat angle,	G							
76 - probably about 30 degrees	G							
77 - and the other one about 15 degrees.	G							
78 - Then, the one you just drew							R	
79 - hanging towards the quarter circle,				F				
80 - the long one,	G							
81 - if you draw between that one	G							
82 - and the straight one	G							
83 - that you drew on the left hand side.							R	
84 - Two straight ones together,		G						
85 - the left hand side of one of those	G							
86 - and then one pointing towards	G							
87 - the semi circle or the quarter of circle.				F				
88 - About a cm above the top oblong,	G			F				
89 - start drawing one and a half inches line	G			F				
90 with the arrowhead facing towards the right.					S			
91 - You got three more		G						
92 - of these kinds of half arrows to draw.					S			
93 - Two in the right hand side of the top oblong.	G			F				
94 You draw about two inches arrow going up					S			
95 from the top right hand side of the top oblong	G			F				
96 - with the arrowhead going left.					S			
97 - Again in the bottom oblong,				F				
98 - on the top right of it,	G							
99 - do a two and a half inches arrow					S			
100 - going up	G							
101 - with the arrowhead facing towards the full circle.				F	S			
103 - You got one more arrow to draw.					S			
104 - That's between the arrow you just drew					S		R	
105 - and the long straight arrow					S			
106 - that you should have in the middle.							R	
107 - That's in the top oblong,				F				
108 - just on the centre of it.	G							
109 - It's about one and a half inches long	G							
110 - with quite large head					S			
111 - facing the flat angle at the right.	G							
112 - That's apparently all that is drawing			G					
		65		30	18		12	
					125			

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

FIRST YEAR session 12 - Description 02 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1 - This one looks like a plan view						S				
2 - over a building,						S				
3 - done kind rough lines.					F					
4 - Again in the centre of the page,		G								
5 - the whole thing is probably seven cm by nine cm.		G								
6 - Basically a square.					F					
7 - You draw a seven or eight cm square		G			F					
8 - in the centre of the page.		G								
9 - That's the out line for your drawing.			G							
10 - If you go about four cm down,		G								
11 -just half way down the square you just drew,					F			R		
12 - then draw a parallel line across the page,		G			F					
13 - going from the one side to the other.		G								
14 - At the right hand side of your drawing,		G								
15 - go from that line you just drew					F			R		
16 - and go direct about one cm away		G								
17 - from the right hand edge.		G								
18 - Go direct up		G								
19 - from the line you just drew					F			R		
20 - until it almost meets the top.		G								
21 - It's quite rough.			G							
22 - Between the side of this square					F					
23 - and the line you just drew,					F			R		
24 - do a S shape						S				
25 - from about one cm high,		G								
26 - touching the two lines each side.					F					
27 -Then you should have like a blank bottom half		G								R
28 - on the square now.					F					
29 - Go to the bottom left hand side		G								
30 - and draw a guideline						S				
31 - about half way across the square,					F					
32 - straight down		G								
33 - from the line you just drew,					F			R		
34 - across straight down		G								
35 - on the bottom of the square.					F					
36 - Use that line as a guide.					F	S				
37 - Just do about one cm up,		G								
38 - except that two parallel lines					F					
39 - about an mm apart.		G								
40 - Across the line,					F					
41 - going half width of the square		G			F					
42 - up to the line you just drew,					F			R		
43 - about one and a half cm		G								
44 - or equidistance			G							

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

45 - between the full line across				F				
46 - the two parallel lines you just drew,				F			R	
47 - do another set of two parallel lines				F				
48 - but an mm across,	G							
49 - an mm out	G							
50 - to the same distance you did before.							R	
51 - Now you got the square in the middle.	G			F				
52 - Go to the bottom left hand corner	G							
53 - and draw a line down				F				
54 - about two cm.	G							
55 - From that line go across				F				
56 - to the same distance	G							
57 - as the guide lines you drew.					S		R	
58 - Should be half way	G							
59 - across the big square.				F				
60- Then do another parallel line equidistant				F				
61 - between the big square				F				
62 - and the line you just drew,				F			R	
63 - again the same length.	G							
64 - Then parallel line				F				
65 - between the two close the rectangle.				F				
66 Now between the top set of two parallel lines				F				
67 - between that and the line you drew				F			R	
68 - across the square.				F				
69 - I want you to do a ... it's the infinite sign					S			
70 - or pretty much the sum sign.					S			
71 - Basically it's a figure eight on its side					S			
72 - with the left hand side missing.	G							
73 - So you set two lines crossing each other.				F				
74 - It's about one cm by one cm.	G							
75 - If you go to the middle line				F				
76you got on the right hand side of the square,	G			F				
77 - drop about a half cm down,	G							
78 - do a line from about three cm in,				F				
79 - out of the square,				F				
80 - about further three cm	G							
81 - and do another line				F				
82 - exact the same	G							
83 - underneath that.	G							
84 - In the end of that	G							
85 - do a square				F				
86 - about one cm by one cm.	G							
87 - The line you just drew out,				F			R	
88 - about one cm in,	G							
89 - from the side of the square,				F				
90 - doing the square				F				
91 - you got in the big square.				F				
92 - The top right hand side,	G							
93 - you got that smaller rectangle				F				
94 - with the S shape at the top,					S			
95 - draw a line down from that				F				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

96 - to the line you just drew					F			R		
97 - out of the big square.					F					
98 - Do like two lines next each other					F					
99 - about an mm high.		G								
100 - In the middle section,		G								
101 - where you got the half figure of an eight						S				
102 - and square box					F	S				
103 - with lines coming out,					F					
104 - you do some rough scribbles.					F					
105 - Do a couple of lines					F					
106 - about three cm in distance along.		G								
107 - In between these two lines,					F					
108 - much towards the left hand side,		G								
109 - about half way across,		G								
110 - there is that looks an 'OL',						S				
111 - an O and an L.						S				
112 - Is right there in a small half cm high,		G								
113 - writing in the middle of the square.					F					
114 - The rest of it is just scribbles,			G							
115 - probably indescribable.							R			
116 - That's all.				G						
	51				56	14	15			
	136									

FIRST YEAR session 13 - Description 01 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgme	Remem	Reflect	Recap
1 - There is a box.						S				
2 - Draw a box about 8cm per 8 cm.		G				S				
3 - Draw a line horizontally					F					
4 - through the middle from each side.		G								
5 - Now is divided into two sections.		G								
6 - In the lower section draw a vertical line,		G			F					
7 - bottom section to bottom section.		G								
8 - Three sections and two small ones.			G							
9 - The left hand small one		G								
10 - is divided into three equals parts			G							
11 - with horizontal lines.					F					
12 - Three horizontal rectangles boxes,					F	S				
13 - add two in the end.			G							
14 - So basically they add to the others two.			G							
15 - Before they all,			G							
16 - towards the box.						S				
17 - On the top section now,		G								
18 - on the big section on the box,						S				
19 - on the right hand side,		G								

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

20 - as you go horizontally line				F					
21 - go a cm from the right	G								
22 - and draw a line vertically down.				F					
23 - On the top half basically.	G								
24 - On the top right corner of the rectangle,	G			F					
25 - of the box,					S				
26 - draw a 'S',					S				
27 - flat on the top of it.	G								
28 - So it's basically the width	G								
29 - of the little rectangle you just drew.				F			R		
30 - It is your vertical rectangle				F					
31 - with the S in.					S				
32 - I told you to draw three rectangles				F					R
33 - in the small section,	G								
34 - on the left.	G								
35 - On the top rectangle,				F					
36 - draw on left hand side,	G								
37 - a cross.					S				
38 - A cross or something.					S				
39 - In the middle of that rectangle				F					
40 - draw a small 'H',					S				
41 - in the middle.	G								
42 - Basically as you look at it,		G							
43 - the way you draw it,		G							
44 - it's in your side,		G							
45 - you got a sort of on it's side H.					S				
46 - On the bottom right hand of the H.	G				S				
47 -continuing to the middle point on the line.	G			F					
48 - In the top right of this little rectangle,				F					
49 - draw a back to back form N.					S				
50 - There are four rectangles.				F					
51 - The box next to it.					S				
52 - Basically the box divided into four parts.	G				S				
53 - On the bottom right part of it,	G								
54 - draw a rectangle,				F					
55 - on the top.	G								
56 - Starts a rectangle,				F					
57 - the top left corner of the rectangle	G			F					
58 - in the top left corner of the box	G				S				R
59 - and draw around about one cm down	G								
60 - and two-thirds the way along.	G								
61 - Started just in front left,	G								
62 - in the top left hand corner,	G								
63 - start a bit along.	G								
64 - As you did with the H,					S		R		
65 - continue the bottom right part of the rectangle	G			F					
66 - so the bottom-line.	G								
67 - Just draw and keep going		G							
68 - and extend out of the main box	G				S				
69 - about three cm.	G								
70 - Where the line ends				F					

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

71 - use that as the middle point of the box						S				
72 - and draw one cm square						F				
73 - around that tip basically.		G								
74 - They go to the polo five rectangles			G			F				
75 - in the bottom left.		G								
76 - Draw a line from the bottom right corner		G				F				
77 - of the rectangle,						F				
78 - horizontally along		G								
79 - to third way in the next box.							S			
80 - So next to that box		G					S			
81 - in the bottom right corner,		G								
82 - draw this line						F				
83 - about a third way to it		G								
84 - and join that line up						F				
85 - with the rectangle you drew in that box.						F	S		R	
86 - It's basically a T,							S			
87 - like a T-junction or something.							S			
88 - Draw the tiniest, tiniest A							S			
89 - and on the border of that.		G								
90 - So draw in the top of horizontal line.		G				F				
91 - Mark out a right angle		G								
92 - with a square in the corner.						F				
93 - In the right hand corner,		G								
94 - the right hand side of it		G								
95 - draw a little, not exactly.										R
96 - Extend the left hand side of it.		G								
			56			29	26		6	
							117			

FIRST YEAR session 13 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1 - Actually draw a box,						S				
2 - a rectangle about six cm per six cm.		G			F					
3 - Don't actually draw it, mark it.									R	
4 - Just imagine it.									R	
5 - In that rectangle,					F					
6 - on the top left hand corner,		G								
7 - draw a quarter of the circle.					F					
8 - Basically a quarter of the circle.					F					
9 - On the top right hand corner		G								
10 - just away from the corner,		G								
11 - just away from the edges,		G								
12 - draw a circle.					F					
13 - Small circle					F					
14 - about by one and a half cm in diameter.		G								

Sketching and visual perception in conceptual design

Annex V – Segments and verbal cognitive actions

15 - In the bottom of this imagined rectangle,				F					
16 - in the bottom,		G							
17 - draw like a oblong,				F					
18 - not properly a oblong,								R	
19 - just bit rough.			G						
20 - Not quite touching the edge		G							
21 - of this imagined rectangle,				F					
22 - just away from it.		G							
23 - Just above that,		G							
24 - there is basically a square				F					
25 - with rounded edges.		G							
26 - Also just above the oblong,		G		F					
27 - bit bigger than the oblong.		G		F					
28 - There are basically ten			G						
29 -up side down arrows shapes or something.					S				
30 - In the left hand side		G							
31 - of the rectangle with curve edges,				F					
32 - this one you just drew,								R	
33 - draw a line about three cm,		G		F					
34 - 45 degrees from the top of it.		G							
35 - Draw a line up three cm with another tick		G		F	S				
36 - by 45 degrees from the vertical.		G							
37 - Draw a line about a cm down.				F					
38 - Just go down and right of it.		G							
39 -Draw another one exactly the same shape.		G							
40 - Basically they look like a up side down arrows					S				
41 - So get an arrow,					S				
42 - turn it like mirror image in the horizontal,					S				
43 - but the short bit of the arrow					S				
44 - liked pushed it.			G						
45 - That should like being drawing			G						
46 - over the two shapes drawn in the bottom.		G							
47 - The same shape arrow up.					S				
48 - Put the corner in between		G							
49 - the quarter circle and the circle.				F					
50 - In between those too,		G							
51 - the last two arrows you drew.					S			R	
52 - Draw two in the gap between them,		G							
53 - but they are twice the length		G							
54 - and pointing in the other way.		G							
55 - So the arrow is pointing in the other way.					S				
56 - Just a bit longer.		G							
57 - One of those just the double the length.		G							
58 - Draw in the middle		G							
59 - of this imaginary rectangle				F					
60 - a line,				F					
61 - another arrow basically.					S				
62 - It's going about from the middle		G							
63 - of the bottom oblong,				F					
64 -all way up to the bottom to the quarter circle		G		F					
65 - Draw the arrow pointing to the left.					S				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

66 - Just to the right of that,		G									
67 - draw another arrow the same length,						S					
68 - just take a bit higher in the top,		G									
69 - about a cm up		G									
70 -and out the arrow pointing to another way.						S					
71 - Another one of them			G								
72 - with the arrow pointing to the right.						S					
73 - It's half the length the one you just drew.		G						R			
74 - Starts in the middle of the rectangle.					F						
75 - Half the length.		G									
76 - It doesn't go half way up half way down.		G									
77 - It's in the middle.		G									
78 -You should be in the edge of the rectangle now					F						
79 - this imaginary rectangle.					F						
80 - So just about a third way up from the bottom,		G									
81 - draw another arrow						S					
82 - the same shape that one in the start,								R			
83 - pointing to the left.		G									
84 - The last arrow just in the edge,						S					
85 - is a vertical line,					F						
86 - about one and a half cm,		G									
87 - starting in the mid point		G									
88 - and pointing left it's arrow.						S					
89 - That's it.				G							
			48		25	18		7			
						98					

FIRST YEAR session 14 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgme	Remem	Reflect	Recap	
1 - You need to have the paper portrait.	G										
2 - The drawing is portrait shape.	G										
3 - In the top left hand corner		G									
4 - there is a quarter of an arc					F						
5 - domain from the centre and the corner		G									
6 - and nearly half way across the top.		G									
7 - Like a bit of the semi circle.					F						
8 - Starts about two-fifths of the way across the top		G									
9 - from the top left hand corner		G									
10 - and then draw a quarter of the circle					F						R
11 - towards the left hand side.		G									
12 - Then, after you done that,										R	
13 - in the other corner,		G									
14 - the other top corner,		G									
15 - there is a small circle					F						
16 - about the size of five p,						S					

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

17 - about one cm from the top		G								
18 - and just another cm from the right hand side.		G								
19 - Then you go down to the bottom.		G								
20 - Across the bottom you drew,								R		
21 - about one cm from each side		G								
22 - there's an irregular shape sausage.						S				
23 - Above that,		G								
24 - you draw another one slightly bigger		G								
25 - and slightly more square.		G								
26 - There is about, the bottom, about one cm width or kind		G								
27 - and the top one nearly two cm.		G								
28 - Then you're going to draw ten such of hooks						S				
29 - and they're basically vertical,						F				
30 - or not quite vertical line,						F			R	
31 - they're slightly diagonal		G								
32 - coming out of the sausages.						S				
33 - There are six on the bottom one.			G							
34 - One in the left-hand side end the richness		G								
35 - almost to the top of the big sausage.						S				
36 - Look like an up side down ticks.						S				
37 - You need to do a line up						F				
38 - and a line coming out to the right diagonally						F				
39 - just about one cm long.		G								
40 - Next that,			G							
41 - starting a bit higher,		G								
42 - you draw another one,		G								
43 - which comes out of the top of the big square		G				F				
44 - and has a much long tick						S				
45 - going to the left,		G								
46 - up to two cm.		G								
47 - A cm along from that,		G								
48 - in the small square,						F				
49 - you do a much longer line,		G				F				
50 - which is nearly to the semi circle						F				
51 - you done in the top corner.		G								
52 - It's a little bit diagonally.		G								
53 - It's about eleven o'clock.						S				
54 You draw a line down from that to the left,		G				F				
55 - about two cm long		G								
56 - to make another tick.						S				
57 Right in the centre of the small sausage		G				S				
58 - there's a long vertical line,						F				
59 - which is about two-thirds of the page		G								
70 - with a small tick to the left.						S				
71 - Another cm along from that,		G								
72 - in the small sausage,						S			R	
73 - there's another almost parallel line,						F				
74 - which is, goes past about nearly to the centre		G								
75 - of the small circle on the right,						F				
76 - but it's to the left of that circle						F				
77 - and has a tick to the right						S				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

78 - about one and a half cm long.		G									
79 - The last line in the small sausage,					F	S					
80 - starts right in the corner		G									
81 - and goes about five cm long		G									
82 - and has a tick to the left						S					
83 - about one cm long.		G									
84 - Now you got four more ticks to draw.			G			S					
85 - One starts right in the left hand side		G									
86 - to the big sausage.						S					
87 - It's about three and a half cm long		G									
88 - and has one cm tick going down						S					
89 - on the right hand side.		G									
90 - There is another one in the left hand,		G									
91 - or right hand corner of the big sausage,		G				S					
92 - right on the top.		G									
93 - It's four cm long		G									
94 - and has a little tick to the left.						S					
95 - Then you got two more.			G								
96-One comes, remember the big line you drew in the middle					F			R			
97 - and the line going to the semi circle					FF						
98 - It comes around between them.		G									
99 -Starts about one cm above the big sausage		G				S					
100 - about three cm long		G									
101 - maybe four cm long		G								R	
102 and has a tick going to the right hand side						S					
103 - with one cm long.		G									
104 - The last one you have to draw is,			G								
105 -if you came from the right hand side the lines		G									
106 - then there should be a gap		G									
107 - where you drew a vertical line					F			R			
108 - from the centre of the sausage						S					
109 - going up about four cm long		G									
110 - and has a tick one cm line						S					
111 - to the right.		G									
112 - It's done.				G							
			63		22	24		8			
						117					

FIRST YEAR session 14 - Description 02 (Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgme	Remem	Reflect	Recap	
1 - This looks like a plan of a house.						S					
2 - The lines are scratching massing			G		F						
3 - as you got few times.									R		
4 - First of all draw a big square					F						
5 - in the centre of the page		G									

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

6 - taking at almost of the page	G								
7 - just leave a gap in the right hand side.	G								
8 - When you have done that,								R	
9 - the left hand vertical line of the square,				FF					
10 - so the left side of the square				F					
11 - continue the line down				F					
12 - about two cm from that.	G								
13 - And then, from the bottom of this,	G								
14 - mark out the middle point	G								
15 - of that little two cm line you just drew.				F				R	
16 - So mark out one cm from that.	G								
17 - Draw horizontal lines from the one cm				F					
18 - and end of that line you drew.				F				R	
19 - Go to the middle of the box,	G					S			
20 - so parallel to the bottom of the box,	G					S			
21 - going half way across the page.	G								
22 Draw another of those two little vertical lines				F					
23 - Starting at the bottom of the box,	G					S			
24 - just a little bit to the left	G								
25 - of those lines you just drew.				F				R	
26 - No, no wait.									R
27 - Draw a line completely cutting the box				F		S			
28 - in half horizontally.	G								
29 - From that line to the bottom	G			F					
30 - draw another line,				F					
31 - which cuts it not quite in half	G								
32 - but just bit to the left	G								
33 - of the thing you just done.								R	
34 - It should now be in quadrants.	G								
35 -Should be in three squares of the box now.				F		S			
36 - The bottom left hand square,	G			F					
37 -you want to do two lines horizontally,				F					
38 - so you cut that into three equal parts.		G							
39 - When you've done that,									R
40 - as the two lines you just drew,				F				R	
41 - the top one,	G								
42 - you want to extend	G								
43 - across the right hand side of the box,	G					S			
44 - just about one cm.	G								
45 - Do a little line up from that,				F					
46 - not quite to the end of it,	G								
47 - just a quarter way up to the middle line.	G								
48 - Divide that line in half again	G			F					
49 -by doing a little sort of quick line across that				F					
50 - In the bottom left hand box,	G					S			
51 - divide into three.	G								
52 - In the top section of that,	G								
53 - in the left hand side,	G								
54 - you want to do a cross,						S			
55 - but when you're doing a cross,						S			
56 -start at the top left hand line of the diagonals	G			F					

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

57 - and then doing the cross					S				
58 - taking a tenth of the paper.		G							
59 - After you done that								R	
60 - go to the right hand lower quadrant.		G							
61 - From the little line					F				
62 - you just did in the end of it								R	
63 - and you cross in half,		G							
64 - draw a horizontal line across,					F				
65 - which extend three cm out of the box.		G				S			
66 - On the end of that line,					F				
67 - draw one cm cube					F				
68 - but just crossing over that line.					F				
69 - Draw another line					F				
70 - on the top of the horizontal,		G							
71 - three cm line just few mm above that.		G							
72 - The top right hand of the box,		G				S			
73 - about one cm in from the wall,		G				S			
74 - draw a vertical line					F				
75 - going down to the centre line.		G							
76 - You should have such that thing.									R
77 - Start in the top		G							
78 - of that new little box you just made.						S			
79 - You want to wiggle across to the other side.		G							
80 - Then go back across		G							
81 - like a snake actually.						S			
82 - More just go back three times.			G						
83 - Go back to the cross you did						S		R	
84 - in the lower left hand quadrant.		G							
85 - Where the centre of the cross is,						S			
86 - a little bit to the right of that,		G							
87 - draw a line horizontally one cm long.					F				
88 - From that line,					F				
89 - a little bit to the end of it,		G							
90 - do a vertical three mm long line.					F				
91 - Draw a line from that,					F				
92 - going through horizontally across		G							
93 - to divide two boxes in half.						S			
94 - Along the centre line		G							
95 - you need to make a scribble.					F				
96 - Starting half way across		G							
97 - the lower left hand quadrant,		G							
98 - along the centre line,		G							
99 - you need to do a little tine A,						S			
100 - such a summarise show.									R
101 - Then go from that horizontally down		G							
102 - about two or three cm.		G							
103 - It's quite complicated.							R		
104 - From that vertical line					F				
105 - and horizontal centre line,		G							
106 - draw those two up to make triangle.					F				
107 - Doing another vertical line down					F				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

19 - that you drew first,								R		
20 - is like a projection						S				
21 - or bee sticking out		G								
22 - in a very small square,					F					
23 - about the size of a penny maybe.						S				
24 - Once you finished the main square,					F					
25 - on the bottom left		G								
26 - there is another what looks like a bed structure						S				
27 - but it's not that drew in the large square.					F			R		
28 - It's away from it.		G								
29 - Only drew in the left hand side		G								
30 - by one tine line.					F					
31 - Back to the bottom left hand group.		G								
32 - On the top of the three divisions		G								
33 - made horizontally		G								
34 - there is a X						S				
35 - on the top left hand corner of that room.		G				S				
36 - A scribble to the right of it.		G			F					
37 - Going down the room,						S				
38 - in the middle of that small division on the room		G				S				
39 - it's like a horizontal line as well.					F					
40 - Back to the bottom right hand corner		G								
41 - of the large square,					F					
42 - so the bottom right hand corner of the room,		G				S				
43 - there is like another bed bench						S				
44 - along the topside of the room,		G				S				
45 - about the similar size of the bed.		G				S				
46 - Projection comes out of the large square					F	S				
47 - the whole big thing is going to that.			G							
		25			13	23	3			
		64								

FIRST YEAR session 15 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1 - It's a very abstract drawing.			G							
2 - On the top right hand corner		G								
3 - there is what looks like a sun.						S				
4 - Just a round circle.					F					
5 - On the top left hand corner		G								
6 - there is a quarter of circumference of a circle,					F					
7 - roughly about four times the size		G								
8 - of the one you just drew.								R		
9 - Below that		G								
10 - there is what look like lines					F					
11 - with another line in the end					F					

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12 - that is coming down		G							
13 - about forty-five degrees		G							
14 - from the top of that.		G							
15 - There is what looks like maybe flags on the golfing						S			
16 - on the golf course.						S			
17 - About a third way up of the picture		G							
18 - there is like a large,		G							
19 - it's not really circle,					F			R	
20 it's more like oblong with rounded corners.					F				
21 - It looks like maybe a bunker,						S			
22 - the same bunkers on the golf course.						SS			
23 - There are ten of this flags things.			G			S			
24 - There is one on the far left hand side.		G							
25 - Down bit another in left hand side.		G							
26 - These all facing the same way.			G						
27 - Close to the large circle,					F				
28 - the quarter of the large circle,					F				
29 - there is another one facing the same way.		G							
30 - Third way across the page		G							
31 - from your right hand side,		G							
32 - there is another one facing the same way.		G							
33 Became right up to nearly the round circle.		G			F				
34 Then one next of that about half it's length,		G							
35 - starting half of the page.		G							
36 - So all these flags pointing to the right.						S			
37 - Then you got the ones pointing to the left.			G						
38 - There is one that is on extreme right of the page		G							
39 - and it's pointing left		G							
40 - and it's about the similar size		G							
41 - as the one that is half the size,		G							
42 - next to the circle.					F				
43 - There is one just below that		G							
44 - and that sit on a little sort of bunker.						S			
45 - Another oblong with rounded corners		G							
46 - but that is below		G							
47 - and smaller that oblong.					F				
48 - Right on the middle of the page,		G							
49 - going about two-thirds up the page		G							
50 - there is another of this flags						S			
51 - going to the left.		G							
52 - There is one right next that		G							
53 - pointing towards the large circle,					F				
54 - so the quarter of the circle.					F				
55 - Also pointing to the left		G							
56 - with angle about fifteen degrees.		G							
57 - There is one next that.		G							
58 - This one has a large tick on it,						S			
59 - a large flag on it.						S			R
60 - There is right next to the one you just drew,							R		
61 - but half it's length again		G							
62 - and pointing the early edge,		G							

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

63 - the left hand edge of the page.		G								
64 - So these flags, they go up and across						S				
65 - but they don't have the bottom part of them.			G							
66 - You should have ten flags in total.			G			S				
67 - Five pointing in one way			G							
68 - and five pointing in the other way.			G							
			43		13	14			4	
						74				

2 - DIPLOMA YEAR GROUP – Segments and verbal cognitive actions

DIPLOMA YEAR session 01 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer.	Size Posit.	Gener View	Concl usive	Formal	Symbol	Judgm.	Remem	Reflect	Recap
1. It's an abstract image.					F					
2. Basically, at the bottom of A4 page.	G	G								
3. is a very basic kind of oval.					F					
4. There is little up side down ticks						S				
5. witch come up.		G								
6. In the top right hand corner		G								
7. is a circle like a sun.					F	S				
8. It looks like an abstract pot flowers						S				
9. Oh God!!							R			
10. So you got a little oval					F					
11. at the bottom		G								
12. and then you got six			G							
13. up side down vertical ticks						S				
14. coming out of it,		G								
15. they go to about the middle of the page.		G								
16. These four up side down ticks,						S				
17. they actually come inside the circle.		G			F					
18. About the midway up		G								
19. of those ticks,						S				
20. there is a very crude square					F					
21. just been draw.			G							
22. Inside that square		G			F					
23. are three up side down ticks again.			G			S				
24. There is one at the far left hand corner		G								
25. that goes up		G								
26. about three cm.		G								
27. There is one in the far right hand corner		G								
28. of that square.					F					
29. That one goes up a bit higher .		G								

Sketching and visual perception in conceptual design

Annex V – Segments and verbal cognitive actions

30. There is one on the left hand side of that.		G								
31. So, there are three up side down ticks			G			S				
32. in the middle circle.		G			F					
33. Towards the top of the page		G								
34. there is one tick						S				
35. witch is just in the middle of the page,		G								
36. and not growing on circle or square.		G			FF					
37. Go to the top right hand corner of that page.		G								
38. Draw a circle like a sun.					F	S				
39. Sun is shinning down						S				
40. on the little vase of ticks.						S				
41. In the far top left hand corner		G								
42. you've got a semi-circle.					F					
43. When you look at your drawing,			G							
44. a very nice drawing you've done,			G							
45. look at the very far bottom of the page.		G								
46. Should be a rough oval circle					F					
47. should be rough.			G							
48. In side		G								
49. should be like little flowers						S				
50. in a pot of vase.						S				
51. There should be six ticks			G			S				
52. going across		G								
53. from one end to the other.		G								
54. Above that very roughly drawing square.		G			F			R		
55. These tall ticks						S				
56. should run through the middle		G								
57. of this square.					F					
58. There should be three upright ticks.			G			S				
59. Above it a little tick						S				
60. witch is outside that.		G								
61. Top right hand corner of this page,		G						R		
62. is a little sun.						S		R		
63. On left hand top half of page		G						R		
64. is a semi-circle,					F			R		
65. actually a quarter circle, sorry.					F					
66. That's it.				G						
			41		18	19		6		
					84					

DIPLOMA YEAR session 01 - Description 02 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posi	Genel View	Concl usive	Formal	Symbol	Judg	Remem	Reflect	Recap
1. Basically a very roughly drawn			G							
2. floor plan of kind						S				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

3. it's like a very rough sketch					S				
4. what you would find on tracing paper,					S				
5. which is right at the beginning stages of design.					S				
6. Quite simple really.						R			
7. A large square to start.				F					
8. Just two lines through it,				F					
9. just to give an indication of thickness.						R			
10. Go to the bottom	G								
11. of the left hand square you have drawn.	G			F			R		
12. Draw a little rectangle				F					
13. which runs from the left hand side.	G								
14. A bit of a gap between the two,		G							
15. from the left hand corner	G								
16. to the centre point of the square.				F					
17. Extend the wall					S				
18. of your square				F					
19. into the edge of the rectangle.	G			F					
20. You should have two shapes:		G							
21. a large square,				F					
22. on the bottom left	G								
23. there should be a little rectangle.				F					
24. The wall should run					S				
25. between the two of them		G							
26. on the left hand side of the square.	G			F					
27. What you must do now is mirror the top line				F	S				
28. of your rectangle				F					
29. to the bottom line of the square.	G			F					
30. From the centre point					S				
31. of the bottom line of the square,	G			F					
32. draw a line up	G			F					
33. to the middle of the square.				F					
34. Then draw a line across	G			F					
35. from centre point to centre point					S				
36. on the left hand side	G								
37. and right hand side of the square.	G			F					
38. So you have got the line going across.	G			F					
39. Next draw a little square box,				F	S				
40. towards the top right hand corner	G								
41. of the square.				F					
42. Leave a little gap between the rectangles		G		F					
43. Make sure it is separated.		G							
44. Move your pen to the mid-point					S				
45. of the left hand side of the square.	G			F					
46. Move it down	G								
47. a tiny bit	G								
48. to give it a little space.		G							
49. Draw a wall across,					S				
50. about a few centimetres	G								
51. do like a double line.				F					
52. At the end of the wall,					S				
53. draw another square.				F					

Sketching and visual perception in conceptual design
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54. Just a small square,					F					
55. the same size as the one you just did earlier.								R		
56. Look quite strange.							R			
57. There are a few odd squiggles in it.					F					
58. What you should have is a large square					F			R		
59. with a rectangle					F			R		
60. on the bottom left hand corner.		G								
61. Gap between the two objects.			G							
62. You should have a line					F			R		
63. going up		G								
64. from the middle point,		G								
65. bottom side of the square.		G			F					
66. Meeting another line					F					
67. running from left to right.		G								
68. A little box,							S			
69. top right corner,		G								
70. another little box							S			
71. like a satellite							S			
72. coming out of the right hand corner.		G								
73. Go to the square you should have					F			R		
74. on your top right hand corner,		G								
75. draw a line from the rectangle					FF					
76. on the far bottom left hand side.		G								
77. Draw a little line down.					F					
78. Make sure it doesn't meet the mid-point line.		G			F					
79. Put a little arrow							S			
80. on the bottom of it.		G								
			38		37	17		9		
						101				

DIPLOMA YEAR session 02 - Description 01 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
. A sketch line drawing.			G		F	S				
. It could be a floor plan.						S				
. Not quite sure,							R			
. quite abstract.							R			
. Basically is a square					F					
. about 6 cm square on the page.		G			F					
. To the right of that,		G								
. coming out of the square		G			F					
. is a pair of short lines					F					
0. with another square					F					
1. at the end of them.		G								
2. So it like a straw						S				
3. or a pipe						S				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

4. coming out the side of that square		G			F				
5. into a very small square.					F				
6. It's about 8 mm square.		G			F				
7. On the bottom left of the square,		G			F				
8. there is a rectangle					F				
9. just below the large square.		G			F				
0. That rectangle					F				
1. is a half the width		G							
2. of the large square					F				
3. and again about 8 mm high.		G							
4. The large square					F				
5. is divided into two,		G							
6. with a horizontal line.					F				
7. So there is a top and bottom half.		G							
8. In the top half,		G							
9. it's mainly empty,		G							
0. apart from the right hand side		G							
1. where again there is a rectangle					F				
2. about 8 mm wide		G							
3. about half size of the large square.					F				
4. This time running vertically.		G							
5. The one to the bottom left		G							
6. of the large square					F				
7. is running horizontally.		G							
8. Ok?								R	
9. In the bottom half		G							
0. of the large square					F				
1. that is a sub divided again into two.		G					R		
2. So the large square					F				
3. is made up of a half		G							
4. and then 2/4		G							
5. so it's made up as a rectangle					F				
6. and two smaller squares.					F				
7. In the bottom half		G							
8. of the bottom left hand side		G							
9. is then divided into three.		G							
0. Equal horizontal rectangles.					F				
1. This should be about the same size		G							
2. as the rectangle below					F				
3. the large square.					F				
4. Ok?								R	
5. In the bottom half of the large square,		G			F				
6. on the right hand side		G							
7. is a very small rectangle.					F				
8. This joins onto the pipe						S			
9. and small square.					F				
0. That's about 6 mm deep		G							
1. and runs horizontally.		G							
2. Not as long as half the square.					F				
3. That's it, I think.				G				R	
4. The large square					F				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

5. looks as though it			G							
6. may have a double line					F					
7. on the outside.		G								
8. A sketchy outer line					F	S				
9. witch made me think of a wall.						S				
70. I'm not sure.							R			
			35		33	7		7		
										82

DIPLOMA YEAR session 02 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflec	Recap	
1. Abstract, obviously.			G								
2. Look like..., a line drawing					F						
3. a T like Picasso would draw.						S					
4. Looks like, in an abstract way,			G								
5. a beach with trees in it.						S					
6. In a very abstract way.			G								
7. Starting at the top left hand corner		G									
8. there is a quarter circle					F						
9. takes across the top left hand corner.		G									
10. In top right hand corner		G									
11. of the drawing,			G								
12. witch is rough square.					F						
13. There is a circle					F						
14. about 9mm in diameter.		G									
15. Going to the bottom of the page,		G									
16. there are two turd shaped objects.						S					
17. The lower one		G									
18. is smaller than the upper one.		G									
19. Both of them are bellow			G								
20. the centre line of the drawing.			G		F						
21. They are irregular squashed ellipses					F						
22. come rectangles.					F						
23. They both short of the width		G									
24. of the whole drawing.			G								
25. This is again about 6 cm across		G									
26. by about 8 cm high.		G									
27. It did look like an island						S					
28. and growing out of bottom turd						S					
29. are some vertical lines.					F						
30. They look like arrows						S					
31. with a arrowhead only						S					
32. on one side.		G									
33. Some of the heads go to the right		G				S					
34. and some to the left.		G									

Sketching and visual perception in conceptual design
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35. They're coming out			G								
36. of the bottom,		G									
37. they're six of different highs.			G								
38. Coming out of the upper turd,						S					
39. there are three			G								
40. at again different highs.		G									
41. The floating in the sky.						S					
42. fills up most of the page.			G								
43. At the beginning I said								R			
44. there was a quarter circle					F						
45. top left hand corner.		G									
46. There is a bit a scribble on that.					F						
47. Some sort of detail,						S					
48. just a tiny scribble line or two.					F						
49. Bit of shading.						S					
50. You should have a quadroon top left,											R
51. circle top right,		G			F						R
52. two turds bottom half the page,		G				S					R
53. lower one smaller than the upper one.			G								R
54. Lot of arrows going up.						S					R
55. The arrows head are about 8 mm.		G				S					
56. The vertical part					F						
57. because the arrows are pointing upwards.						S					
58. They vary in length		G									
59. to about 2,5 cm to 5 cm.		G									
60. Tallest lengths			G								
61. coming out of the bottom turd.		G				S					
62. That's all...				G							
		36			13	17	6				
		72									

DIPLOMA YEAR session 03 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posii	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1. It's a line drawing			G		F						
2. on a blank background.			G								
3. If you could imagine a representation of a sun						S					
4. in the top right hand corner.		G									
5. Just a circle,					F						
6. plane sphere or a plane circle.					FF						
7. on the top left hand corner		G									
8. of the composition			G								
9. would be a kind of a quarter circle					F						
10. as if it had been cut of the rest		G									
11. by the boundaries of the picture.			G								
12. Lower down the picture		G									

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13. there is an kind of ellipse shape.					F					
14. Above it would be a m...			G							
15. with kind of extends			G							
16. across the whole width		G								
17. of the portrait picture.	G									
18. Above that,		G								
19. going up		G								
20. to the half mark of the picture			G							
21. is a kind of oblong shape					F					
22. with rounded corners.		G								
23. Crossing between these two shapes		G								
24. are large, long, linear number 1's,						S				
25. shapes like number 1's						S				
26. without the bottom cross line.					F					
27. These run through the lower ellipse		G			F					
28. and the more oblong shape.					F					
29. These extend right up		G								
30. just below the circular		G								
31. kind of sun representation would be.						S				
32. These run in both directions.		G								
33. Some have the tick across						S				
34. with the number 1						S				
35. running to the right.,		G								
36. some to the left.		G								
37. In total there are ten of these shapes			G							
38. with are spread to fill all of the space.			G							
39. They have different length,		G								
40. some are shorter		G								
41. some are very long.		G								
42. Running the whole length		G								
43. of the composition.			G							
44. Some just between the ellipse					F					
45. and the oblong shape.					F					
			30		12	6		0		
						48				

DIPLOMA YEAR session 03 - Description 02 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Conclusiv e	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. Again this is another line drawing.			G		F					
2. Resembles a kind of sketch for a plan.						S				
3. Kind of 'Bruno'						S				
4. Rectangular shapes.					F					
5. If we were to take a portrait perspective on this.	G									
6. Running the portrait of the page	G									
7. you would have a kind of wall formation.						S				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

8. Just a thin extruded oblong.				F					
9. This would form the boundaries		G							
10. of a wall					S				
11. running from the left hand side the top		G							
12. would then be bounded		G							
13. by this wall structure.					S				
14. The rest of that would then be divided			G						
15. into a large rectangle shape,					F				
16. witch takes approximately off half		G							
17. of the composition.			G						
18. That would just be the boundaries			G						
19. by single line.					F				
20. If we were to take that rectangle shape					F				
21. and below it		G							
22. you would cut the remaining space			G						
23. in half with another single line.					F				
24. You would have two square shapes					F				R
25. with would be created by that.			G						
26. The square shape on the left		G			F				
27. would be divided equally into 3			G						
28. with double lines					F				
29. what could be walls.						S			
30. On the right hand square		G			F				
31. you have from the top of it		G							
32. a dividing line					F				
33. taking up ¼ of it		G							
34. running horizontally across.		G							
35. Then from the where that horizontal line					F				R
36. cut the boundary			G						
37. of that square.					F				
38. Then becomes a double line					F				
39. equivalent to the wall,						S			
40. analogy that we used earlier.								R	
41. This extends out the width		G							
42. of that square					F				
43. where it terminates in a square					F				
44. 2 cm square		G			F				
45. attached to the end.		G							
46. In the left hand square		G			F				
47. described early,								R	
48. below that		G							
49. again about the equivalent of one			G						R
50. of the divisions in three,			G						
51. you just got a long rectangular shape.					F				R
52. It is just situated about few cm below		G							
53. the last division.			G						
54. Just a oblong					F				
55. extend a little bit early			G						
56. about the square.					F				
57. Go back to the large oblong					F			R	
58. in the top of the composition.									

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

59. You got a ...		G									
60. it divided that oblong into quarters.		G			F						
61. The right hand quarter		G									
62. could be defined by a single line,					F						
63. the rest could be left open.			G								
64. Then in the top of that quarter		G			F						
65. you just have a kind of sinuous S shape line.						S					
66. Just a mark up the top right hand corner,		G									
67. a kind of 'post stand'.						S					
68. In the left hand of the two squares,		G			F						
69. below		G									
70. there will be almost figure...						S					
71. about but rotate round 90 degrees.		G									
72. In the left hand...		G									
73. sort of that...there will be a kind of scribbles,					F						
74. a kind of M						S					
75. situated in the middle		G									
76. of that section		G									
77. of the oblong.					F						
78. Then, just have two parallels lines					F						
79. running through the middle		G									
80. of that oblong.					F						
81. Below that square you have,		G			F						
82. where the line divides that oblong					F						
83. into two squares formations,					F						
84. you'd have a little emphases			G								
85. where divided into 3,			G								
86. you got a little oblong.					F						
87. Could be like representing a plank,						S					
88. a plank in plan.						S					
89. I just try in this basis.										R	
90. That's it.				G							
		47			35		13		8		
		103									

DIPLOMA YEAR session 04 - Description 01 (Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1. I'm looking at something			G								
2. that looks like a plan.						S					
3. It's very rectilinear			G								
4. in the centre of the page.		G									
5. Possible, I say, about 12 cm x 12 cm.		G									
6. If you imagine a square,					F						
7. but don't draw a square.					F						

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

8. Draw the top line of the square	G		F						
9. and the left hand side	G								
10. of the square.			F						
11. So you got a inverted L.					S				
12. From the right hand end	G								
13. of the top line of the square,	G		F						
14. it's a corridor					S				
15. about a cm wide,	G								
16. comes down	G								
17. about half way	G								
18. of the right hand side	G								
19. of the square.			F						
20. From the left hand side	G								
21. there is axes					S				
22. running horizontally	G								
23. across the page.	G								
24. Goes to the centre		G							
25. of the left hand side	G								
26. of the imagined square			F						
27. and it's about 14 cm.	G								
28. That terminates in a small square,			F						
29. which could represent a tower					S				
30. or some thing.								R	
31. If the square is splat into quarters,			F						
32. it's not, but if is split into quarters,	G								
33. the bottom left hand quarter	G								
34. is then subdivided into four bases	G								
35. below the axes,					S				
36. which runs across.	G								
37. So you have the inverted L					S				
38. with the corridor running					S				
39. from left to right	G								
40. and then up	G								
41. to close in a rectangle.			F						
42. The corridor					S				
43. beginning in the centre	G								
44. of left hand side,	G								
45. below that you have four bases		G			S				
46. which take about half of the width	G								
47. of the square			F						
48. to fill up the quarter.		G							
49. The central corridor					S				
50. terminates in a square,			F						
51. which could represent a tower.					S		R		
52. The bottom right hand corner	G								
53. is made up by double thickness lines			F						
54. which bring you up to the corridor					S				
55. and the single thickness line			F						
56. take you across to the base	G								
57. on the bottom hand corner.	G								
58. Probably the better I can.		G							

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

	33	14	13	2
	62			

DIPLOMA YEAR session 04 - Description 02 (Non-Architectural sketch)

Segments	Verbal Cognitive Actions										
	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1. It's a more abstract image.			G		G						
2. Again to the centre of the page.		G									
3. Think it's a sort of representing trees,						S					
4. possible.									R		
5. But the trees are draw in a way it is...						S					
6. if you draw a arrow						S					
7. without taking your hand off the paper			G								
8. by drawing straight up		G									
9. and then down		G									
10. a short way a 45 degrees.			G								
11. If you stop there			G								
12. without complete the arrow,						S					
13. that's the sort of way trees are represented.						S					
14. So bit like a 'barb' fishing coco'						S					
15. or something like that.									R		
16. Straight line up		G			F						
17. and then straight line down		G			F						
18. around about 45 degrees.			G								
19. Some of this trees base						S					
20. the line is on the right		G			F						
21. some of them the line is on the left.		G			F						
22. They vary on sizes.			G								
23. The tree is then sits						S					
24. on two sort of circular elliptical shapes					F						
25. but not true ellipses					F				R		
26. but almost.									R		
27. Try to draw a square,					F						
28. sorry, a rectangle.					F				R		
29. Above these arrows						S					
30. there is a circle.					F						
31. The circle is drawn in the corner		G			F						
32. of the page.			G								
33. See a quarter of the circle.					F						
34. So you start with an elliptical shape,					F					R	
35. but not true ellipse					F				R		
36. but almost									R		
37. if it change to a rectangle					F						
38. with round corners.		G									
39. It's about 5 or 6 cm across		G									
40. and 2 cm high.		G									

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

41. Above that	G								
42. there is a slight large	G								
43. rectilinear elliptical shape				F					
44. probably,								R	
45. and half bigger	G								
46. and 1,5 cm width	G								
47. and 1 cm taller	G								
48. than the previous one.								R	
49. Separated by just 1 cm.	G								
50. There are ten sort of trees		G			S				
51. or vertical elements.				F					
52. 5 with the arrows facing one way		G			S				
53. and 5 face other way.		G							
54. I have to go through one by one.								R	
55. The first one is drawn		G							
56. in the bottom ellipse	G			F					
57. over the left hand side,	G								
58. into the first ellipse.				F					
59. The straight line				F					
60. goes into the first ellipse				F					
61. and then it pass it	G								
62. and straight down	G								
63. to the right.	G								
64. The next one starts in the bottom ellipse		G		F					
65. and goes up	G								
66. through the second ellipse,				F					
67. above it about a cm	G								
68. and down to the left.	G								
69. The next is slight slanted	G								
70. to the left,	G								
71. but again starts in the bottom ellipse,	G			F					
72. goes up through the second ellipse	G			F					
73. nearing to the left.	G								
74. Goes further	G								
75. beyond the last tree					S				
76. and down to the left.	G								
77. The next one is just the same		G							
78. but straighter	G								
79. and slight shorter.	G								
80. The next one is taller,		G							
81. straighter	G								
82. and lease to the right.	G								
83. Just by the top	G								
84. of that one to the right	G								
85. and above it	G								
86. is the circle.				F					
87. The last tree element					S				
88. in the bottom ellipse				F					
89. is on right hand side	G								
90. and goes up about the same right	G								
91. as the second one		G							

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

92. that I described								R		
93. and down to the left.		G								
94. Then there are tree elements						S				
95. that start in the second elliptical shape					F					
96. above the first.		G								
97. The first is right over		G								
98. the left hand side		G								
99. and comes up about 3 or 4 cm		G								
100. and the arms to the right.						S				
101. Next tree element						S				
102. is about $\frac{3}{4}$ of the way		G								
103. towards the right.		G								
104. It's about the same size		G								
105. to the others again								R		
106. the arm to the right.						S				
107. Final tree element						S				
108. in the second ellipse					F					
109. is right over		G								
110. the right hand boundary		G								
111. and again the top right boundary										
112. and the same size		G								
113. as the previous one		G								
114. but the arm to the left.						S				
115. Final tree element						S				
116. is above the second ellipse					F					
117. so touching any ellipse					F					
118. about the centre of the group			G							
119. horizontally.		G								
120. It is about the same size		G								
121. of the last tree group						S				
122. with arm to the right.						S				
123. Finally in the top left hand corner		G								
124. of the sketch						S				
125. there is a curve,					F					
126. which is almost a quarter of the circle					F					
127. that's been drawing off the page.			G							
128. So it's a quarter of the circle without					F					
129. just peering the circumference line.					F					
130. It's the better.				G						
			74		35	23		13		
						145				

DIPLOMA YEAR session 05 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posii	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap

Sketching and visual perception in conceptual design

Annex V – Segments and verbal cognitive actions

1. The image is black lines			G							
2. on white paper.			G							
3. It takes about 1/3 whole length		G								
4. full paper.		G								
5. Starts on the centre		G								
6. the same proportion as A1			G							
7. but it tend portrait	G									
8. in the centre of the page.		G								
9. So start 1/3 size of the image.		G								
10. It doesn't have an out line			G							
11. but it compared a black line.			G							
12. A circle						F				
13. in the top right hand corner		G								
14. of the space.			G							
15. In the top left hand corner		G								
16. there's a semi circle.						F				
17. Then at the bottom		G								
18. there are two oblong circles						F				
19. one above the other		G								
20. taking the most space			G							
21. of the area originally described.								R		
22. There is one size on the bottom		G								
23. and other in the top.		G								
24. Oblongs going width ways		G				F				
25. and there are ten vertical lines			G			F				
26. that look like number one							S			
27. or number seven.							S			
28. Straight lines						F				
29. that come down about the top.		G								
30. That's all on this page.					G					
31. So basically composed:			G							R
32. circle the top right hand,		G				F				R
33. semi circle top left hand.		G				F				R
34. Two oblong circles at the bottom.		G				F				R
35. Several black lines in the centre.			G			F				R
36. All right up			G							
37. with ticks on the top,							S			
38. like number ones.							S			R
39. That's ok.					G					
			30			10	4		7	
						51				

DIPLOMA YEAR session 05 - Description 02 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. It's about a square			G		F					

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

53. out of the page.			G								
54. There are two lines					F						
55. like a 'prouk'						S					
56. coming out of the square.		G			F						
57. At the end of it		G									
58. draw a small box,						S					
59. attached to the end.		G									
60. Go back at the large square as a whole.					F			R			
61. Go down to the bottom left hand corner		G									
62. of the square.					F						
63. The other side now.		G									
64. Just extend the left wall						S					
65. of the square					F						
66. slight further down.		G									
67. Just make down bit longer		G									
68. and then draw a oblong					F						
69. coming out		G									
70. under the larger square.					F						
71. So almost the replicate the third			G								
72. you divided in the block						S					
73. of square originally.					F			R			
74. So it's a small portion		G									
75. coming out		G									
76. the bottom left hand side		G									
77. of the large square.					F						
78. On this is a oblong box.					F	S					
79. It's quite sketch,						S					
80. nothing is quite exact.								R			
81. I think it's the better.				G							
			47		30	11		9			
						97					

DIPLOMA YEAR session 06 - Description 01 (Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
	1. It's a architectural sketch.						S				
2. Looks like a plan.						S					
3. Basically a square					F						
4. in the middle of the page,		G									
5. about 10 cm on each side,		G									
6. with some division		G									
7. dividing into two rectangles.					F						
8. The division is going across the middle		G									
9. of the square					F						
10. horizontally.		G									

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Annex V – Segments and verbal cognitive actions

11. The lower rectangle				F					
12. is again subdivided into two squares				F					
13. with a vertical line.				F					
14. Basically it is the layout of the thing.		G							
15. About one cm down	G								
16. from that first horizontal division that you drew,	G					R			
17. there is a line				F					
18. sticking out the side of the rectangle,	G			F					
19. which is double line.				F					
20. So it's a cm down that line a	G			F					
21. and sticks a cm into the rectangle	G			F					
22. and three cm out the rectangle.	G			F					
23. There is a little square				F					
24. in the end of that.	G								
25. Like a light spot.					S				
26. That little square				F					
27. is about one cm square.				F					
28. On the top half square,	G			F					
29. the top rectangle				F					
30. that hasn't be subdivided yet.		G							
31. There is a line down on side,				F					
32. a vertical line down on side				F					
33. dividing a one cm width stick,	G				S				
34. a vertical one,	G								
35. on the end of that rectangle				F					
36. inside the big square.				F					
37. Just to recap:									R
38. In the big square,				F					R
39. we have it divided									R
40. into two long rectangles,				F					R
41. top and bottom.	G								
42. We have a little fly					S				
43. what looks like a light spot					S				R
44. in the bottom one.	G								
45. We have a little stick					S				
46. in the top one.	G								
47. The bottom	G								
48. of those two long rectangles				F					
49. is subdivided into two squares.				F					
50. The left hand of these two squares	G			F					
51. I just mentioned,						R			
52. is now divided into three		G							
53. with horizontal lines,				F					
54. so it's about... I don't know...							R		
55. equally divided into three		G							
56. horizontal divisions		G							
57. by two lines.				F					
58. If you can take two of those		G							
59. new long rectangles				F					
60. just created on those subdivisions,		G							
61. a little third		G							

Sketching and visual perception in conceptual design
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62. basically draw two of those			G							
63. on the bottom		G								
64. of that square.					F					
65. So also sticking out		G								
66. of the big square.					F					
67. Going back again.		G								R
68. Big square,					F					R
69. subdivided into two long rectangles,					F					R
70. top and bottom.		G								R
71. On the top one you have a little stick						S				R
72. on the side,		G								
73. on the right hand side.		G								
74. At the top of that,		G								
75. inside this little stick,						S				
76. there is something approaching vertically			G							
77. its relation pattern.			G							
78. A kind of pipe out about a cm.						S				
79. Going back again.										R
80. Big square.					F					R
81. Two horizontal rectangles.					F					R
82. Left hand square of lower rectangle,					FF					
83. the top corner of that little rectangle,		G			F					
84. its got a cross.						S				
85. A very quickly cross						S				
86. about a cm square					F					
87. on its left hand end.		G								
88. As a multiplication sign.						S				
89. Nothing too neat.							R			
90. A line going from there,					F					
91. horizontally from the right hand side		G								
92. of that cross,						S				
93. more or less to that subdivision			G							
94. that I mentioned,								R		
95. of these two rectangles					F					
96. on the bottom rectangle					F					
97. of the big square.					F					
			42		43	14		18		
										117

DIPLOMA YEAR session 06 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. It is more a tri-dimensional picture						S				
2. or what it seems.									R	
3. There is a rectangle which is just...					F					
4. it is not drawing									R	

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

5. but part of the print,			G						
6. sitting on middle of the page.		G							
7. It's a long line rectangle					F				
8. about ten cm width		G							
9. and about fifteen cm high.		G							
10. That is the frame of what you will draw.				G					
11. At the bottom of that rectangle		G			F				
12. there is some sort of...			G						
13. basically it is an oval shape					F				
14. but being flattening		G							
15. in this distinct hand drawing.			G						
16. Not really oval at all					F			R	
17. but more sausage.						S			
18. Above that		G							
19. there is a slightly fat of that.		G							
20. The first sausage						S		R	
21. is about two cm high		G							
22. and stretch most of the width		G							
23. and it is centered.		G							
24. Most of the width of the rectangle.					F				
25. The second sausage						S		R	
26. is about three cm high,		G							
27. slightly longer		G							
28. and slightly square at the end.		G			F				
29. Top left hand corner		G							
30. of the rectangle					F				
31. we have a quarter of circle					F				
32. about two cm in radius.		G							
33. The quarter circle					F				
34. has a 90 degrees angle		G							
35. with the rectangle that you just drew.					F			R	
36. Opposite that,		G							
37. on the top right hand corner,		G							
38. we have a little circle					F				
39. about 1,5 cm in diameter,		G							
40. not radius but diameter.								R	
41. That sits basically opposite		G							
42. the quarter of circle,					F				
43. that quarter arc.					F				
44. Sticking out of this,		G							
45. if you think the two sausages,						S			
46. they look like tolls						S			
47. of water or something.						S			
48. So again tri-dimension on what you drew.						S		R	
49. Sticking out then,			G						
50. there are a lot of almost vertical lines.					F				
51. Out of the first sausage		G				S			
52. we have six lines.			G		F				
53. I should go from left to the right.			G						
54. Very equal stages			G						
55. across the vertical rectangle roughly.					F				

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Annex V – Segments and verbal cognitive actions

56. They still have different bits		G							
57. of depth of this part that is going back.	G								
58. The first one is a vertical line				F					
59. that starts near the left hand end	G								
60. of the sausage					S				
61. and goes up about 4 cm.	G								
62. The second one another cm longer	G								
63. and further back	G								
64. goes up 5 cm	G								
65. and sticks slightly up to the left.									
66. The next one again a cm far from that.	G								
67. Same position on the depth	G								
68. of the sausage,					S				
69. sticks out about 8 cm	G								
70. and slightly to the left.	G								
71. One after that is very close		G							
72. but is based towards the front	G								
73. of the sausage,					S				
74. goes up straight about 8 cm ,	G								
75. so on the rectangle				F					
76. becomes lower than last line,				F					
77. because it's close to the front	G								
78. of the sausage.					S				
79. Next one along a cm,		G							
80. same depth in the sausage,					S				
81. up ten cm.	G								
82. That's coming just about the circle,	G			F					
83. which you drew at the top right hand corner							R		
84. of the rectangle.				F					
85. The last one is right on the right edge	G								
86. of sausage,					S				
87. slightly to the right	G								
88. with depth about 5 cm.	G								
89. Now on top of each of those,	G								
90. there is another line				F					
91. that's coming down	G								
92. about 45 degrees for about a cm.	G								
93. On the first, line is to the right.				F					
94. Second line is to the left.				F					
95. Third line is to the left.				F					
96. Fourth line to the left.				F					
97. Fifth line to the right.				F					
98. Sixth line to the left.				F					
99. That's the little line coming down.				F					
100. On the back sausage					S				
101. we have three of these vertical lines.				F					
102. The first one on the extreme left hand end	G								
103. towards the front of the depth	G								
104. of the sausage.					S				
105. This is about 4 cm,	G								
106. comes down to the right	G								

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Annex V – Segments and verbal cognitive actions

107. that 45 degrees line.		G									
108. The next one in this sausage							S				
109. is between, apparently		G									
110. between because of the perspective,				G							
111. is between the fifth and the sixth lines		G									
112. of the first sausage.							S				
113. Middle of that second sausage,							S				
114. up about 5cm,		G									
115. down to the right 45 degrees		G									
116. and one cm.		G									
117. At the very last one				G							
118. on the extreme right hand end		G									
119. of the sausage,							S				
120. towards the back of the depth		G									
121. of this second sausage,							S				
122. up about 5 cm		G									
123. and down 45 degrees		G									
124. one cm to the left.		G									
125. And finally between the third and forth lines		G				F					
126. of the first sausage,							S				
127. we have another line,						F					
128. which doesn't have space				G							
129. in one of the sausages							S				
130. but is in fact in the background,				G							
131. a cm above the back sausage.							S				
132. Going straight up 4 cm,		G									
133. coming down to the right		G									
134. of that 45 degrees line,		G									
135. one cm down to right		G									
136. 45 degrees.		G									
137. I think that's it.					G						
138. Hang on.											R
139. There is a little scribble on the top.		G									
140. That is silly.								R			
141. That's all.					G						
					82		33		25		11
											151

DIPLOMA YEAR session 07 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1. If you have your paper portrait,	G										
2. in the top right hand corner		G									
3. draw a circle.					F						
4. Top right.		G									
5. Then on the left hand corner,		G									

DIPLOMA YEAR session 07 - Description 02 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. This is a lot different to the first one.			G							
2. Nothing rounded,			G							
3. all kind of plane shapes.			G							
4. If you just draw a big square,					F					
5. probably the size of A4 format,	G									
6. a bit A4 square.					F					
7. The bottom left corner		G								
8. of this square,					F					
9. I want you to draw a rectangle					F					
10. underneath it		G								
11. and half way of the square.					F					
12. If you not mean,									R	
13. the width is half the square		G			F					
14. and the deep of this extra rectangle		G			F					
15. at the bottom.		G								
16. It's only about an eight		G								
17. of one of the length		G								
18. of the square.					F					
19. So I want you to draw a line					F					
20. straight across the middle of square,		G			F					
21. so dividing it into two.			G							
22. Know the rectangle that you drew					F			R		
23. in the bottom left corner?		G								
24. If you rotated it 90 degrees,			G							
25. so you have a vertical rectangle.					F					
26. I want you to draw one			G							
27. at the top right of this square.		G			F					
28. On the right hand side		G								
29. of this square,					F					
30. of this big square,					F					
31. I want you to draw...not, ignore that.									R	
32. The line in the middle		G			F					
33. of the square that you drew,					F			R		
34. draw another line underneath it.		G			F					
35. The same width		G								
36. as the rectangle you've been drawing,					F			R		
37. so it's a double line,					F					
38. parallel line underneath that.		G			F					
39. After you done that,									R	
40. on the right hand side		G								
41. of the square,					F					
42. I want you to extend that second line,					F					
43. the one further down,		G								
44. extend that line					F					

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45. by a third of the square.					F					
46. On the end of that extended line,		G			F			R		
47. I want you to draw another square,					F					
48. but this square is the same width					F					
49. as the rectangle,					F					
50. the short width of the rectangle.					F					
51. So you got like a big square					F					R
52. with the line sticking out		G			F					
53. and a little square					F					
54. on the end of it,		G								
55. on the right hand side.		G								
56. What else is there?									R	
57. You know the right hand corner,		G								
58. right top corner of big square,		G			F					
59. there is a rectangle.					F					
60. At the top of the rectangle,					F					
61. inside the rectangle,					F					
62. there is a scribble.					F					
63. There is a S shape,						S				
64. a scribble,					F					
65. but is actually a reverse of a S shape.						S				
66. If you mirror a S,						S				
67. that is what you need to draw									R	
68. on the top of the rectangle.					F					
69. The top half corner,		G								
70. not the top, sorry.		G								
71. If you look at the left hand side		G								
72. of the big square,					F					
73. the line down there,					F					
74. just underneath the line you drew					F			R		
75. across the square,		G			F					
76. dividing into two,			G							
77. putting a cross						S				
78. just underneath that line,		G			F					
79. in between the two parallel lines		G			F					
80. on the left hand side.		G								
81. Just do it like a cross.						S				
82. If you look at the bottom half the square,		G			F					
83. ignore the second line you drew.					F			R		
84. If you divide the square into three,					F					
85. so the whole thing is in six divisions.			G							
86. Just look at the bottom left corner of those		G								
87. I'll start again.										R
88. You divide the square into half,					F					R
89. the top half and the bottom half.		G								R
90. The bottom half, divide again.		G								R
91. So draw a line,					F					
92. so it becomes quarters.		G								
93. In the bottom left corner,		G								
94. you got a quarter of the square.					F					
95. Divide that into three,			G							

Sketching and visual perception in conceptual design
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96. so you got one line there.					F						R
97. Then draw a second line,					F						
98. so you got thirds now.			G								R
99. Again it is all horizontal lines.					F						
100. I think it's about it.				G							
				48	55	5	18				
126											

DIPLOMA YEAR session 08 - Description 01 (Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1. It's a free hand sketch.						S					
2. Looks like a plan.						S					
3. A square.					F						
4. Half way down the square		G			F						
5. look like a kind of corridor.						S					
6. With an extra square					F						
7. attached on the right.		G									
8. Above the corridor		G				S					
9. on the right,		G									
10. along the right hand side		G									
11. of the square					F						
12. there is a kind of section						S					
13. that is very small corridor						S					
14. with the length of the square.					F						
15. In the main square					F						
16. there are also another small rectangle					F						
17. which is to the bottom left hand,		G									
18. just off a little bit		G									
19. to the main square.					F						
20. In the central corridor						S					
21. that I described								R			
22. in the middle of the square		G			F						
23. there are a lot of scribbles.					F						
				8	10	7	1				
26											

DIPLOMA YEAR session 08 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgme	Remem	Reflect	Recap	

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

1. It is another free hand sketch						S				
2. but not architectural sketch of a building.						S				
3. Starts in the top left		G								
4. with a quarter of a circle.						F				
5. A bottom quarter of the circle.						F				
6. Top right		G								
7. the full circle						F				
8. but much smaller		G								
9. then the other circle						F		R		
10. which is incomplete.			G							
11. At the bottom of the page		G								
12. you got a kind of oval						F				
13. type pound shape,							S			
14. which is full width of that.		G								
15. Above that pound		G					S			
16. you got a slighter big one		G								
17. but more rectangular one.		G								
18. The any other thing are ten lines.			G			F				
19. All have like a tick			G				S			
20. on the top of them.		G								
21. All the ticks go in different directions							S			
22. and have different sizes.		G								
23. The first tick start to the left,							S			
24. quite small		G								
25. and the tick go to the right.							S			
26. The second tick is much bigger							S			
27. and the tick go other way,							S			
28. to the left.		G								
29. Another tick is almost near the circle						F	S			
30. and then three smaller ones.			G							
			16			7	11			1
							35			

DIPLOMA YEAR session 09 - Description 01 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. The first sketch						S				
2. is based around a fairly small square					F					
3. about 3 inches long each side		G								
4. based in the middle		G								
5. of the sheet of paper.		G								
6. There is a horizontal line					F					
7. dividing the top and the bottom part		G								
8. of the square,					F					
9. so at the bottom of the square					F					
10. there is a vertical line					F					

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11. dividing those two halves.		G						
12. In the bottom left hand quarter	G							
13. of that square				F				
14. there are two horizontal lines				F				
15. dividing roughly into three parts.		G						
16. In the top right hand corner	G							
17. of the large square				F				
18. there is one vertical line				F				
19. giving a small rectangle				F				
20. roughly equal in size to the three	G							
21. in the bottom left hand corner	G							
22. of the main square.				F				
23. The length of three rectangles	G			F				
24. in the bottom left hand corner	G							
25. of that main square				F				
26. is another small rectangle				F				
27. slightly longer	G							
28. in line with the left hand edge	G			F				
29. of the main square				F				
30. and slightly below the main square.	G			F				
31. If you imagine the horizontal line				F				
32. dividing the top and bottom half	G							
33. of this main square				F				
34. project it out about an inch		G						
35. this forms the top right hand corner	G							
36. of the small square,				F				
37. each side of that square				F				
38. is roughly the same as the width	G							
39. of the small vertical back	G							
40. in the top right corner	G							
41. of the main square.				F				
42. Right across	G							
43. from this small square to the big square				FF				
44. 3 inches either side of the horizontal lines				F				
45. in the bottom right hand corner	G							
46. of that mains square				F				
47. near the top	G							
48. is another one small	G							
49. horizontally placed	G							
50. rectangle slightly smaller than the twig				F				
51. in the bottom left hand corner	G							
52. of the main square.				F				
		27		28	1		0	
				56				

DIPLOMA YEAR session 09 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
. Ok here we have another fairly small sketch						S					
. in total its about 2 and a half inches wide		G									
. and about 4 inches tall.		G									
. Occupying the top right hand corner		G									
. of this space			G								
. is a small circle					F-						
. about two thirds of an inch		G									
. across maybe a quarter of an inch		G									
. across from the right hand side		G									
0. in the top of this imaginary rectangle.		G			F						
1. In the top left hand corner of this		G									
2. a quarter of a circle					F						
3. coming from the top left hand corner		G									
4. coming downwards		G									
5. and right maybe about an inch.		G									
6. In the bottom area of the sketch		G									
7. at most about 3 quarters an inch tall		G									
8. is a sort of flat oval					F						
9. extending most of the width		G									
0. of that sort of 2 and half to three inches.		G									
1. Above this		G									
2. is a slightly taller		G									
3. and more rectangular shape					F						
4. but with rounded corners,		G									
5. then coming from these two oval shapes					F						
6. are a bright in a bowl						S					
7. a near vertical lines					F						
8. each one been a small line					F						
9. coming from the top		G									
0. so it makes a sort of half of a single arrow.						S					
1. There are 10 of these in total			G								
2. at various heights and with			G								
3. various heights			G								
4. is of small lines coming up					F						
5. with big lines.					F						
6. I think that's all again.				G							
		24			11	3		0			
						38					

DIPLOMA YEAR session 10 - Description 01 (Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgme	Remem	Reflecti	Recap	
1. The thing you are going to draw is a plan.						S					
2. Basically it is a plan.						S					
3. It's rectilinear.					F						
4. Two straight walls						S					
5. at 90 degrees angle.		G									
6. Very rough the two walls.						S					
7. One of them are two-thirds of the other.		G									
8. On the other side,		G									
9. this is small open.						S					
10. There is one large space,						S					
11. I think should be a bedroom						S					
12. or what looks like a walking						S					
13. and wardrobe.						S					
14. On the other side of this space		G									
15. there are a lots of scribbles					F						
16. but I'm not sure.							R				
17. Basically taking your drawing			G								
18. from the north,		G									
19. these walls at north and west side						S					
20. are big blocks,						S					
21. quite thickness on the plan.						S					
22. On the other side is more open.						S					
23. There is a large space					F						
24. on the north and west,		G									
25. which is the whole size of north wall						S					
26. and half size of the west wall.						S					
27. There is another small space,						S					
28. which goes on the under west,		G									
29. to west wall						S					
30. to half way to the north wall.						S					
31. That wall						S					
32. is then in the bottom then south.		G									
33. There is another space,			G								
34. which connection to that			G								
35. follows the each wall						S					
36. which is a continuation of the other room.						S					
37. Then half way down		G									
38. on the east wall,						S					
39. there is a wall						S					
40. just outside the space		G									
41. with a square box					F	S					
42. on the end of it.		G									
43. That's all.				G							

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Annex V – Segments and verbal cognitive actions

	15	4	24	1
	44			

DIPLOMA YEAR session 10 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1. It's not architectural drawing.						S					
2. Looks very challenger any way.							R				
3. The best way to describe									R		
4. is that it's looks like a sea.						S					
5. There's a circle					F						
6. in the top right-hand corner		G									
7. that is suppose to be a moon						S					
8. or sun.						S					
9. There is another large quarter of the circle,					F						
10. it's quite large		G									
11. and is the section of the circle,					F						
12. which goes to the top left hand corner.		G									
13. Just a quarter of the circle.					F						
14. Down to the bottom of the picture		G									
15. there are, I think,									R		
16. what must be two pounds maybe.						S					
17. Two kinds of rectangular boxes,					F	S					
18. but it are not exactly rectangles.					F				R		
19. Shape of a Lakeland						S					
20. with cute edges.		G									
21. Some sort of sticks						S					
22. straight sticks up						S					
23. with a line attached,					F						
24. coming to the top of it		G									
25. and angle about 60 degree		G									
26. from the horizontal		G									
27. and about 30 degrees		G									
28. with the vertical.		G									
29. So I think									R		
30. it must be a representation of a plant.						S					
31. Must be sticks in a pound.						S					
32. Looks like basically pounds and sticks.						SS					
33. They look like that.				G							
	11				7	13	5				
	36										

DIPLOMA YEAR session 11 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. It's an A size format.	G									
2. It's a series of lines.					F					
3. There is no fill			G							
4. just straight lines.					F					
5. some curve lines.					F					
6. An imaginary scene						S				
7. of reeds around the lake,						SS				
8. over the lake.						S				
9. Towards the bottom of the page.		G								
10. for about half way down,		G								
11. there are two oblongs					F					
12. with curved corners.		G								
13. The top one of two		G								
14. is slightly bigger than the bottom one.		G								
15. The bottom is slightly more rounded.		G								
16. You got these two oblongs,									R	
17. which I think are lakes						S				
18. at the bottom of the page.		G								
19. The top right		G								
20. there is a small circle,					F					
21. which is probably the sun.						S				
22. The top left		G								
23. there is a quarter of the circle,					F					
24. which is bigger than the other circle,		G			F			R		
25. which is the sun.						S			R	
26. It's about a quarter of the page in radius.		G								
27. It's quite suit curve.					F	S				
28. Then you got the same sticks						S				
29. from the lake						S				
30. going up		G								
31. with the tails on it.						S				
32. Have you start drawing?									R	
33. I'll probably continue through the sticks.						S				
34. You got ten sticks.						S				R
35. Some of them start in the bottom lake,		G				S				
36. some start in the top lake.		G				S				
37. One of them is just floating.						S				
38. They got like a little stalk						S				
39. pointing diagonally down,		G								
40. even left or right		G								
41. from the top of it.		G								
42. They are a straight line					F					
43. and then have a little stalk						S				
44. coming down.		G								

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

45. I'll start from the left.									R	
46. In the upward of the two lakes,						S				
47. there is a small one joining			G							
48. about half way the page,		G								
49. starts the left edge of the lake.		G				S				
50. Goes up.		G								
51. It's quite short		G								
52. and got a little stalk						S				
53. and goes down		G								
54. to the right of the top.		G								
55. The next one to the right,			G							
56. starts in the bottom lake						S				
57. and goes up		G								
58. and doesn't go pass the top lake.		G				S				
59. It goes just a little bit in the next lake		G				S				
60. and its tail goes down						S				
61. to the right.		G								
62. The next one to the right			G							
63. starts on bottom lake						S				
64. and goes up through the next lake		G				S				
65. and stops about the middle of the page.		G								
66. Its tail goes back to left downwards						S				
67. in between the last two stalks.						S		R		
68. The next one to right again			G							
69. is the same as the last one.								R		
70. Starts in the bottom lake,						S				
71. goes up nearly to that quarter		G								
72. and then down to the left.		G								
73. Then we have one to right of that,			G							
74. which is floating.						S				
75. This one starts above the top lake		G				S				
76. about half way the page,		G								
77. goes up		G								
78. and then the tail goes down						S				
79. to the right		G								
80. in about middle of the page.		G								
81. Then we have one straight			G							
82. in the centre of the page,		G								
83. starting in the bottom lake						S				
84. and goes straight up.		G						R		
85. It doesn't go as high as the last one		G								
86. and its tail goes down						S				
87. to the left		G								
88. towards the last one.								R		
89. Then we got the next one to the right,			G							
90. which goes from the bottom lake						S				
91. all the way up,		G								
92. the same high as the floating one		G				S				
93. and then down to the right.		G								
94. Its tail is quite close to the sun circle.						F	SS			
95. The next is a short one,		G								

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

96. which starts on the top lake this time,						S				
97. straight up		G								
98. towards the end of the last tail		G				S		R		
99. and its tail slightly flat						S				
100. going to the right.		G								
101. There are two more sticks to go.				G		S				
102. The next one starts in the bottom oblong,						S				
103. goes up		G								
104. to below the tail of the last one						S		R		
105. and its tail goes left						S				
106. underneath the last one.		G								
107. The last one is at the end of the page		G								
108. on the right of it.		G								
		62			10	46	12			
		130								

DIPLOMA YEAR session 11 - Description 02 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. We've got a very sketchy plan						S				
2. of a building probably.						S				
3. It's a rough square.					F					
4. Start drawing a very sketchy square,					F	S				
5. nearly full the page		G								
6. but slightly to the top left.		G								
7. Top and left hand side		G								
8. of the square					F					
9. there's slightly more emphasis				G						
10. with few more scribble pen.					F					
11. Become a horizontally line					F					
12. crossing the centre of the square,		G			F					
13. just a straight line across.					F					
14. If you imagine it in quarters,				G					R	
15. at the bottom left hand quarter		G								
16. there's two lines					F					
17. splitting that quarter into thirds.		G								
18. Each of those appears to be walls						S				
19. with double lines.					F					
20. There is single stalk						S				
21. making the bottom,		G								
22. dividing the bottom half		G								
23. of the whole square					F					
24. into quarters		G								
25. and then goes down to the edge.		G								
26. Beyond the edge,		G								
27. beyond those two bottom lines		G			F					

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28. there's actually another two lines				F					
29. out side the square				F					
30. and the same size.		G							
31. The left hand side of the square		G		F					
32. extends to meet the corner		G							
33. of those two lines.				F					
34. Those two lines				F					R
35. out side of the square		G		F					R
36. are on the right hand side.		G							
37. There's a vertical				F					
38. but only join the two			G						
39. out side the square,		G		F					
40. doesn't join with the main square.				F					
41. There's a little square,				F					
42. a tine square at the right		G		F					
43. of the whole big square,				F					
44. in the centre.		G							
45. Just below the centre line about,		G							
46. with the gap about these two			G						
47. of these small squares,				F					
48. so a little square out side.				F					
49. The thickness of that square,				F					
50. if you imagine again,									R
51. back across the main square,				F			R		
52. there is like a width probably		G							
53. start away or that sort of bit,			G						
54. that is indicated by two lines				F					
55. going across the whole square				F					
56. and going out into the little square.		G		F					
57. There are some scribbles				F					
58. that have been attached on top of this.		G							
59. On the left hand edge,		G							
60. just below the centre line		G							
61. running horizontally,		G							
62. there is like an extra room,						S			
63. the same size of the small square.		G		F					
64. Next of that,		G							
65. still in the bottom quarter,		G							
66. is a scribble of a backwards shape N.						S			
67. There are more sketchy scribbles						S			
68. slightly to the right,		G							
69. which indicate the centre point		G							
70. of the whole square.				F					
71. In the top section of the square,		G							
72. right on the right hand side,		G							
73. about the width of that small square,		G		F					
74. which is about a eighth of the total,		G							
75. there is a line				F					
76. running vertically		G							
77. from about an eighth		G							
78. down the middle line.		G							

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79. At the top		G							
80. of that channel you drew before,						S		R	
81. there is a backwards-S shape.						S			
82. Like a scribble,					F				
83. which is like when we draw insulation						S			
84. or sort like that.								R	
85. At the bottom right of the square,		G			F				
86. on the vertical side,		G							
87. there is extra thickness extra lines.					F				
88. A bit emphasis at the bottom right			G						
89. and the top left		G							
90. of the main square					F				
91. is also emphasis			G						
92. where are scribbles like pen.					F				
93. In the central channel						S			
94. that runs horizontally,		G							
95. below that on the right,		G							
96. below that channel you drew						S		R	
97. in the right,		G							
98. there is a little small rectangle					F				
99. just below the left hand line		G							
100. of that channel,						S			
101. inside that channel						S			
102. but in the next channel now.						S			
103. In the right of the square,					F				
104. on the central line,		G							
105. there is the letter D facing down.						S			
106. Looks like a semi-circle					F				
107. just out side the main square,		G			F				
108. like a letter D facing down.						S		R	
109. At the bottom left of all you drew,		G						R	
110. set out side of the square,		G			F				
111. with the left hand edge of the square		G			F				
112. running down into the outside lines,		G			F				
113. that's actually like a little line down					F				
114. just outside of that line.					F				
115. Between the square and the outside lines		G			F				
116. and that's give ends by little lips						S			
117. that going across horizontally		G							
118. to make the small section wall or like this.						S			
119. Top line of the whole square		G			F				
120. is made about five or six deep strokes		G							
121. and its little sketchy bits crossing it						S			
122. At the bottom middle		G							
123. of the main square you drew first					F			R	
124. there is a couple of little sketching,					F				
125. tine little sketching circles,					F				
126. which I think just make up comers,		G							
127. basically make that corner.		G							R
128. In the bottom left corner		G							
129. of the main square,					F				

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130. where you drew those two horizontal lines					F			R		
131. with double lines,					F					
132. to the right		G								
133. where meeting the next quadrant		G								
134. on the right,										
135. actually one of the lines		G								
136. extends about a cm on this page					F					
137. and goes up		G								
138. into that horizontal channel.						S				
139. That's about it.				G						
	73				58	22	13			
	166									

DIPLOMA YEAR session 12 - Description 01 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. I think it's a plan or some thing,						S				
2. but it is very sketchy.						S				
3. It's not very clear what it is.									R	
4. Basically if you draw a square					F					
5. about 6 cm by 6 cm.		G								
6. Have you done that?									R	
7. Draw a horizontal line					F					
8. across the middle of the page.		G								
9. On the bottom half		G								
10. of that square you splat,					F			R		
11. divide that as well			G							
12. into half again.		G								
13. So you should have one more rectangle					F					R
14. and two small squares.					F					
15. Then divide the bottom left square		G			F					
16. into three equal sizes horizontal strips.						S				
17. On the top of one of those strips,		G				S				
18. there is a cross						S				
19. that should represent a lift boil						S				
20. or some thing occupying the left		G								
21. about a third of that strip.		G				S				
22. In the right of that		G								
23. there is a horizontal line					F					
24. through the middle		G								
25. and a little scribble					F					
26. that looks like a sketch						S				
27. of a stair or something.						S				
28. On the bottom		G								
29. of the large square you drew,					F			R		
30. there is a further long line rectangle.					F					

Sketching and visual perception in conceptual design
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31. I can't describe it.							R			
32. Hang on.									R	
33. You should have a large square					F					R
34. split into two.		G								
35. A bottom half split into two.		G								
36. Left half split into three strips		G				S				
37. with these things, cross, sketches						SS				
38. that I think represent stairs in plan.						S				
39. If you go to the bottom		G								
40. of your large square,					F					
41. basically draw a kind of oblong					F					
42. tine rectangle horizontal.					F					
43. Starts on the left edge		G								
44. of the big square,					F					
45. but off set on the bottom of it,		G								
46. finished just beyond half way.		G								
47. I can't describe that.							R			
48. The horizontal line					F					
49. that you drew across the middle								R		
50. of the large square					F					
51. there is a long rectangle					F					
52. in the right half, underneath,		G								
53. in the right half of that as well.		G								
54. I'm not sure what it represents.									R	
55. A kind of a gap in the end,			G							
56. that kind of long tine rectangle					F					
57. occupying part of that right hand		G								
58. little square.					F					
59. I don't know if it makes any sense at all.									R	
60. In the bottom of that		G								
61. there is a single line					F					
62. that projects						S				
63. about one and a half cm out		G								
64. of your large square					F					
65. and finishes		G								
66. with kind of a little sort			G							
67. of six or seven mm square					F					
68. on the end of it.		G								
69. Apparently if you look at your large square					F					
70. that you drew at the start,								R		
71. at the top half of it,		G								
72. there is a long tine rectangle					F					
73. going vertically up		G								
74. to the right hand side of that,		G								
75. which points ticks						S				
76. about six or seven,			G							
77. of the total size of the width		G								
78. of the square you drew initially.					F			R		
79. At the right hand side		G								
80. there is a bit of scribbles					F					
81. on the top of that.		G								

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Annex V – Segments and verbal cognitive actions

I think it's about it.				G						
	36			27	15	14				
	92									

DIPLOMA YEAR session 12 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1. The last description,								R			
2. the whole thing was quite sketchy,						S					
3. this is a single line.					F						
4. This one now is still sketchy						S					
5. but each line look very definite			G								
6. while having rough edges.			G								
7. But looks more like 'kall....'						S					
8. representation of something.			G								
9. It looks like a sun						S					
10. in the top right hand corner of it.		G									
11. Just a circle.					F						
12. Below		G									
13. could be a representation of trees						S					
14. or flowers in the vase or something.						S					
15. Each of those is drawing as vertical lines					F						
16. with a diagonal line					F						
17. down from the top of it.		G									
18. I don't have the engaged drawing accurately			G						R		
19. If you put the page in portrait	G										
20. or drawing a rectangle in portrait format,	G										
21. at the bottom		G									
22. about fifth of it,		G									
23. draw a rough quite long horizontal oval.					F						
24. Above that in more space,		G									
25. draw another one		G									
26. but slight width		G									
27. taking a little more space.		G									
28. In the top fifth of the space,		G									
29. in the top right hand corner,		G									
30. draw a circle,					F						
31. which is the sun or something.						S					
32. On the left hand side of that		G									
33. there is a quarter arc,					F						
34. which cuts the corner of the page.			G								
35. Does it make sense?								R			
36. If you go to the ovals you just drew,					F		R				
37. in the bottom one,		G									
38. there are six of these vertical things,			G		F						
39. maybe trees or something.						S					

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

40. Starting from the left,	G								
41. in the space,					S				
42. except the last with double arrows.					S				
43. Starting from the left,	G								
44. the first one goes up	G								
45. just below the top	G								
46. of the upper oval,					F				
47. and it has a down diagonal tick,					S				
48. I suppose,								R	
49. going down to the right of it.	G								
50. The next one goes up	G								
51. and finishes a short little way	G								
52. above the top oval					F				
53. and has a left diagonal					F				
54. on the end of it,	G								
55. which is longer than the previous one.	G						R		
56. The next one is vertical,					F				
57. quite not actually,								R	
58. and got a slight angle	G								
59. from the bottom of it	G								
60. and goes left of it	G								
61. and finishes with another tick					S				
62. with the similar length	G								
63. of the previous one.							R		
64. The next on is kind in the middle	G								
65. of the oval.					F				
66. It's not pretty vertical,					F		R		
67. and like the previous one						R			
68. it finishes about $\frac{3}{4}$ way up the page.	G								
69. The next one finishes not far,	G								
70. the middle one,	G								
71. not far below that	G								
72. and again the tick on that					S				
73. goes to the left.	G								
74. The next one is vertical	G				F				
75. and finishes,	G								
76. the last one was $\frac{3}{4}$	G								
77. and that is more like $\frac{7}{8}$ way up the page	G								
78. and finishes just in the left	G								
79. the sun you drew					S		R		
80. and the tick on that					S				
81. goes to the right of it.	G								
82. The final one,	G								
83. which is big further apart from the others,	G								
84. goes up	G								
85. about half way up the page	G								
86. and the tick to the left.					S				
87. The ones coming from the upper oval,	G				F				
88. there are three of them.	G								
89. The first one starts on the extreme left	G								
90. of the upper oval.					F				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

91. So in the left		G								
92. of all ones you drew previously.								R		
93. It goes up to about,		G								
94. starts from near the bottom oval					F					
95. and goes up		G								
96. from the bottom of that oval length,		G			F					
97. double high of the oval		G			F					
98. and has tick to the right,							F			
99. diagonal to the right.		G								
100. Quite short one.		G								
101. The next one from the left		G								
102. is between the last one		G						R		
103. on the right,		G								
104. in the previous oval.					F			R		
105. Starts from the middle		G								
106. of the upper oval,					F					
107. goes up		G								
108. about one and a half times		G								
109. the size the oval					F					
110. and has a tick to the right.							S			
111. There is a final vertical one		G								
112. on the far right top oval,					F					
113. which goes to about two-thirds length the page		G								
114. and has a tick to the left.							S			
115. There is more of this vertical things,		G								
116. which is not coming from nether of the ovals,		G			F					
117. but kind of flying on the sky.							S			
118. If you look at the bottom oval					F					
119. and the vertical element you drew,					F			R		
120. look at the third and forth one			G							
121. to the left.		G								
122. It starts between those two		G								
123. from above the upper oval,					F					
124. a distance about half a width		G								
125. of the oval format					F					
126. and goes up vertically		G								
127. to sort of the high of the sun.							S			
128. The bottom		G								
129. of the sun you drew before							S		R	
130. and has a tick diagonal							S			
131. to the right.		G								
132. So you should have something										R
133. that looks a sort of state							S			R
134. with funny diagonals bits on the end,					F	S				
135. standing in some oval.					F					
136. But you know what it is going to be.									R	
			77		32	25			19	
						153				

DIPLOMA YEAR session 13 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. It's a picture on a portrait page.	G									
2. In the top right corner		G								
3. there is a circle					F					
4. like a sun.						S				
5. In the left corner		G								
6. there's a quarter of the circle,					F					
7. but much larger.		G								
8. Just the bottom right hand corner		G								
9. of the circle.					F					
10. At the bottom of the page		G								
11. there are two			G							
12. very roughly drawing rectangles,					F					
13. which find across the page.		G								
14. Coming out of the rectangles					F					
15. there are several vertical lines.					F					
16. Smaller at the sides		G								
17. and longer at the middle.		G								
18. At the top of them,		G								
19. they have half arrows,						S				
20. a kind of side.		G								
21. There is one			G							
22. which comes from behind		G								
23. the second rectangle					F					
24. which is the shorter one.		G								
There are actually ten on total.			G							
		16			7	2	0			
		25								

DIPLOMA YEAR session 13 - Description 02 (Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. This is a sketch of a plan.						S				
2. Basically a large square in the middle.		G			F					
3. Very roughly drawing			G							
4. with a lot of lines			G		F					
5. in the top of each other.		G								
6. There is a line					F					
7. across the middle of it		G								

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8. dividing in half.		G							
9. Here is a line very close to it,					F				
10. which comes out of the square,		G			F				
11. to the right.		G							
12. To the end of that line		G			F				
13. there is a smaller rectangle,					F				
14. which is taller than width.		G							
15. Again very roughly drawing			G						
16. on the blank			G						
17. of the top of it.		G							
18. They extend and pass each other		G							
19. in the corner.									
20. To the left		G							
21. of the rectangle you just drew,					F			R	
22. in the middle of the square,		G			F				
23. there are a couple of crosses,						S			
24. which make boxes.						S			
25. There is a line					F				
26. slower lower than that one		G							
27. which is through the square.					F				
28. And it goes half way		G							
29. from the left,		G							
30. connected with the main extruded line.		G			F				
31. In the bottom left hand corner,		G							
32. which is divided off		G							
33. with a tine line.					F				
34. The things at left			G						
35. are divided in half vertically		G							
36. with a couple of lines.					F				
37. Below that		G							
38. there's another rectangle,					F				
39. which is slightly spaced away			G						
40. from the box.						S			
41. But connected with that		G							
42. with a very sketching line					F				
43. on the left hand side of it,		G							
44. to the bottom left hand corner		G							
45. of the box.						S			
46. On the top right hand corner		G							
47. of the box						S			
48. there is a vertical line,					F				
49. which is quite close		G							
50. to the right hand side.		G							
51. Right to the top		G							
52. there is a kind of shape of letter two,						S			
53. which connected both of the lines					F				
54. of the right hand side.		G							
			34		18	7		1	
						60			

DIPLOMA YEAR session 14 - Description 01 (Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1. Have you got an A4 piece of paper in front of you?	G										
2. You turn it, so it's horizontal position.		G									
3. Right on the centre of the piece of paper			G								
4. you have to draw a very sketchy square					F	S					
5. about eight cm by eight cm.		G									
6. Imagine the whole drawing			G								
7. is drawing in a grid.						S					
8. It's kind of slightly off centre,			G								
9. on about three degrees.		G									
10. Is that making sense?									R		
11. I'm looking at a really sketch.						S					
12. A sketch of a plan basically,						S					
13. looks like a sketch for a plan.						S				R	
14. Probably you need to draw			G								
15. one kind of line very solid,					F	S					
16. not sketch line					F	S					
17. through the middle of that, horizontally.		G									
18. Let me think.									R		
19. It's got like little small sketchy box						S					
20. on its right,		G									
21. which is about one and a half cm		G									
22. in a kind of measurement						S					
23. and about four cm		G									
24. off to the side of the original box.						S		R			
25. This small electrical on the side,											
26. the top of it,						S					
27 forwards in line with the line you just drew,					F			R			
28. draw the centre of it.		G									
29. Is that making sense?									R		
30. That's look quite sketchy as well,						S					
31. draw like four lines or five or some.			G		F						
32. Then at the very bottom		G									
33. of the main box,						S					
34. there is another like rectangle,					F						
35. which is longer than thick		G									
36 and that is probably about one and a half cm high,		G									
37. but it extends side ways horizontally		G									
38. from the bottom left corner		G									
39. of the main box						S					
40. and extends out to the right		G									
41. by just over like half width		G									
42. of the horizontal width		G									
43. of the main box.						S					
44. That's kind like the proportions of it,			G			S					

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45. but it is kind of sat down		G							
46. off the main box					S				
47. by one and a half cm.		G							
48. Is that making sense?							R		
49. Basically a rectangle,				F					R
50. slightly wide than the half width		G							R
51. of the main box					S				R
52. and one and a half cm high,		G							
53. it's away from the main box		G			S				R
54. by about one and a half cm.		G							
55. It starts on the bottom left hand corner		G							
56. of the main box.					S				
57. Sticking these same lines				F					
58. off the small box here.					S				
59. There is a line connecting it				F					
60. to the bottom left hand corner		G							
61. of the main box.					S				
62. If you imagine the flat kind of line				F					
63. you created in the main box,					S		R		
64. on the left hand side,		G							
65. just continue it down forwards		G							
66. and just draw the smaller box.					S				
67. Is that making sense?								R	
68. If you get back to main box,					S				R
69. in the bottom half		G							
70. of the main box,					S				
71. it has been divided into two		G							
72. by a kind of vertical line.				F					
73. Is like very frame line,				F					
74. is just one, single one.			G						
75. So it's split in half.		G							
76. Is that ok? Let me see.								R	
77. In the main box,					S				
78. in the bottom half,		G							
79. and we are in the left section now.			G						
80. Is that making sense?								R	
81. That section seems to be divided			G						
82. in approximately three parts.		G							
83. Imagine you drawing a sort of like			G						
84. there is a thickness too.					S				
85. Is divided into three parts			G						
86. almost equal but they're not quite,								R	
87. probably near they are.								R	
88. It is been divided			G						
89. with what probably should be								R	
90. like wall or kind of like,					S				
91. with two lines very close,				F					
92. very close together but separated.		G							
93. So looks like a wall.					S				
94. There are two of those			G						
95. dividing into three.			G						

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

96. You got those there?									R	
97. Did I say that go horizontally?									R	
98. Is that all making sense?									R	
99. In the top third of that section,		G								
100. in the bottom left section		G								
101. of the main box,						S				
102. is that making sense?									R	
103. It is divided into three.			G							
104. In the top of one of those three		G								
105. is somebody's drawing						S				
106. on the left hand side,		G								
107. which again is divided		G								
108. by probably about three.		G								
109. There is somebody's drawing,						S			R	
110. a cross in one motion.						S				
111. So draw a cross						S			R	
112. taking about half of the page.		G								
113. Just a bit to the right of that,		G								
114. there are kinds of signs, but a sort of						S				
115. just crossing over the centre line		G								
116. of the main box.						S				
117. Imagine a kind of backwards N.						S				
118. starts from... oh dear it's difficult.							R			
119. If we were in the main box,						S				
120. in the bottom quarter		G								
121. that we've been working in,								R		
122. in the top third of that,		G								
123. it starts probably along the half way line		G								
124. of that box.						S				
125. It's about one cm		G								
126. from the right hand side of it,		G								
127. and then you just drawing								R		
128. a kind of backwards N						S				R
129. with the top of it		G								
130. just crossing over the centre line,		G								
131. if you didn't do it already.									R	
132. Then, just out from that,			G							
133. just below that,		G								
134. there is a single line					F					
135. stretching out.		G								
136. Starts from the right		G								
137. and goes out towards the cross,		G				S				
138. quite reach it.		G								
139. From the centre of the cross		G				S				
140. there is a very shorter two cm line					F					
141. that starts from the centre of the cross						S				
142. and goes down to the right.		G								
143. There is just a very short line crossing both					F					
144. of those two lines you should just drew.					F			R		
145. Is that making sense?									R	
146. Scrap up it, a bit very difficult.							R			

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

147. If you go back to the top half		G						R		
148. of the main box,						S				
149. to the right of that you need to draw a line		G			F					
150. that would probably be about two cm		G								
151. from the right side		G								
152. of the main box. Yep?						S				
153. Starting from the centre line		G								
154. and going up		G								
155. to about one cm in the top		G								
156. of main box,						S				
157. is that making sense?									R	
158. You need to complete that rectangle					F					
159. by going it back the right hand side		G								
160. of the box.						S				
161. I think it's that kind of entrance or some kind.						S				
162. So there is just a little sort of horizontal line					F					
163. going across the right hand side,		G								
164. no, there is a smaller horizontal line					F					
165. crossing over that right hand side		G								
166. of the main box,						S				
167. in that little kind of gap			G							
168. in the top of the rectangle.					F					
169. Is that making sense?									R	
170. In the top half		G								
171. of the main box,						S				
172. there is a kind of rectangle thing.					F					
173. Have you done that?									R	
174. You should have just drawing a vertical thing										R
175. to the right hand side of it.		G								
176. Ok, we leave it.									R	
177. It's not important any way.							R			
178. This picture is quite ridiculous.							R			
179. You know the little bit			G							
180. like a stalk-tail you just drew?						S		R		
181. Ok, that's connected to the main one,			G							
182. it's connected to the main plan,						S				R
183. a main plan						S				
184. what I think it is.									R	
185. It's connected by two horizontal lines					F					
186. that again should be									R	
187. a representation of some kind of wall						S				
188. from above.		G								
189. They basically start		G								
190. on the satellite box.						S				
191. On the satellite box						S				
192. they start from kind of half way down		G								
193. on the left hand side		G								
194. and probably be about a kind...									R	
195. remembering the early walls you drew?						S		R		
196. It's probably twice		G								
197. of the thickness of one of those.			G							

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

198. It goes into the main box,					S				
199. goes about as far as...	G								
200. no, too complicated now.						R			
201. You got like a main box					S				R
202. divided into what say, what like a wall.					S				
203. Imagine it divided into quarters	G								
204. and got the bottom right corner.	G								
205. It extends horizontally	G								
206. about half way	G								
207. of the bottom right hand quarter.	G								
208. One of those lines continues to about,					F				
209. the top one of those lines					F				
210. continues to about one cm away	G								
211. from the left hand side	G								
212. of that right hand quarter.	G								
213. Where that finished you connected it back up		G							
214. to the centre horizontal line					F				
215. of the main box.					S				
216. In the top half of the main box,					S				
217. I'll ask you to draw a kind of line					F				
218. about one cm away	G								
219. from the right hand side.	G								
220. Have you got that line?									R
221. In the top one,	G								
222. in the top right hand box					S				
223. into the top box,					S				
224. from the right hand side,	G								
225. there is a line that is vertical					F				
226. about two and a half cm	G								
227. out from the side of it.	G								
228. I think									R
229. it's probably what can be seen in that page.			G						
230. If you draw a vertical line,					F				
231. two and a half cm	G								
232. out from the right side of that section,	G								
233. then that extends from the horizontal line	G				F				
234. that divides the entire main box,					S				
235. up to one cm from the top	G								
236. of that main box.					S				
237. Then that continues into the right a kind of more,		G							
238. and in the end of that	G								
239. draw a horizontal line					F				
240. to make the right side of the box.					S				
241. There is another horizontal line					F				
242. about two and a half cm	G								
243. below that,	G								
244. a kind of like cuts off a little room,					S				
245. a little box,					S				
246. a kind of rectangle					F				
247. that has been created there.		G							
248. And there are just a width ness signs					S				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

249. on the middle of it.		G									
250. If you imagine that kind of rectangle you just drew,						F			R		
251. the left line that you drew,						F			R		
252. continues down into the bottom half		G									
253. of the main box							S				
254. and running up		G									
255. to the two lines you should have drawn						F					R
256. from the satellite box.							S				
257. There are just two more things,			G								
258. one more thing really.			G								
259. Take the main one, the main box,						F					
260. take the box in the bottom left quarter,		G					S				
261. divided into three bits.		G									
262. Take the top one of those three.		G									
263. We want the bottom line of that.		G									
264. That line extends horizontally						F					
265. into the bottom right quarter		G									
266. of the main box							S				
267. by about three or four cm.		G									
268. Is that making sense?										R	
269. There is vertical line						F					
270. drawing join that line						F					
271. that comes from the satellite box.							S				
					130	41	76			55	
											302

DIPLOMA YEAR session 14 - Description 02 (Non-Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgme	Remem	Reflect	Recap	
1. I'll just describe it first.									R		
2. I'm looking at a kind of selection of horizontal,			G								
3. sorry a selection of vertical arrows.						S					
4. Just draw a kind of one main line					F						
5. and two lines even happen.					F						
6. Imagine taking away one half			G								
7. of the end of the arrow,						S					
8. just one diagonal at the end.					F						
9. I'm looking at a selection of those			G								
10. at different highs			G								
11. and with different lengths			G								
12. from the end of it.		G									
13. Horizontally pointing upwards,		G									
14. but there are slightly angles as well.		G									
15. It looks like a sort of selection			G								
16. of reeds or something like.						S					
17. Selection of kind of reeds						S				R	

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

18. by a kind of lakes					S				
19. or something at night,					S				
20. but a very abstraction of it.					S				
21. In the top left hand corner of it		G							
22. there is a sort of a quarter of a circle.					F				
23. Is that making sense?								R	
24. A line that is a quarter of the circle,					F				
25. that looks like representing a moon or something.					S				
26. There is also another complete circle as well,					F				
27. on the page but up on the right.		G							
28. There is a kind of a couple of ornate					S				
29. on the bottom of the page.		G							
30. So that's all on the picture				G					
31. but I'll try to put in a kind of order.								R	
32. So all the things are									R
33. There is a selection of those arrows things.					S				R
34. There are ten of those.		G							
35. There is circle,					F				R
36. there is a quarter of the circle					F				R
37. and there are two ornate things as well.					S				R
38. I think it's a photocopy								R	
39. or scanner of a A4 sheet of paper.	G								
40. Basically it's a line drawing					F				
41. but I can see a kind of shadow					S				
42. of the A4 piece of paper.	G								
43. Make a kind of invisible A4 sheet of paper	G								
44. in the centre of your sheet.		G							
45. We are talking about this thing			G						
46. being about eight cm wide		G							
47. by thirteen or fourteen cm high.		G							
48. Is that making sense?								R	
49. That's the page.			G						
50. From the circle or the sun,					F	S			
51. is one in the top right hand corner,		G							
52. up from the right		G							
53. by about one cm down from the top		G							
54. by about one and a half cm		G							
55. and it is about three cm in radius.		G							
56. No three cm across,								R	
57. diameter isn't it?								R	
58. Yes, sorry three cm diameter.								R	
59. Then a quarter of the circle					F				
60. Is in the left corner		G							
61. and that would be in radius,								R	
62. probably about something like five cm,		G							
63. but if you imagine it starting one cm		G							
64. from the left side		G							
65. and finishing one cm from the top.		G							
66. Taking those two points		G							
67. and it's about five cm radius.		G							
68. Is that making sense?								R	

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

69. Ok, let's try this way.							R			
70. If you take a point					F					
71. from the top left hand corner,		G								
72. one cm from the left		G								
73. and one cm from the top.		G								
74. Imagine drawing a quarter of a circle					F					
75. with five cm radius.		G								
76. Is that making sense?									R	
77. If you have like a pair of compasses						S				
78. and you took the point					F					
79. one cm from each side,		G								
80. is the point where you stick the sharp						S				
81. and draw a quarter of circle,					F					
82. so five cm out.		G								R
83. Then we'll go to those two little bits.			G							
84. They are sort of like free hand rectangular ovals.					F					
85. Is that making sense?									R	
86. There is a smaller one		G								
87. that goes about four cm in high		G								
88. and sits about one cm		G								
89. on the bottom of the page		G								
90. and about one and a half cm		G								
91. in from each side of the page.		G								
92. And just draw that kind of free hand oval thing.					F					
93. Is that making sense?									R	
94. Have you done that?									R	
95. Above that		G								
96. there is another one of those,		G								
97. one cm up of the last one		G								
98. but slightly more angular		G								
99. and slightly bigger as well.		G								
100. So just draw another one of those		G								
101. but slightly angular and rectangular		G								
102. and slightly larger		G								
103. above it.		G								
104. That's all, I think.				G						
105. Except that we got a small piece									R	
106. of artistic interpretation.						S				
107. There are ten of them.			G							
108. None of them overlap basically.			G							
109. The thing is that six of them			G							
110. start in the lower rectangle,					F					
111. in the lower kind of rectangular box					F	S				
112. and scratch up towards its kind of moon						S				
113. at the top,		G								
114. at different lengths.			G							
115. There are six of those			G							
116. and the central three			G							
117. extend up really quite up the page.		G								
118. Almost reach that line					F					
119. and the two spheres						S				

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

120. in the top.		G							
121. They are like missing about one cm,		G							
122. the central three of them.			G						
123. Two go to the left			G						
124. and one goes to the right,			G						
125. the arrowhead in the top.						S			
126. There is one to the right of those,			G						
127. on the far right of the rectangle					F				
128. and with the arrow						S			
129. going to the left,		G							
130. but not nearly at all.								R	
131. There is one on the far left		G							
132. of that lower box,						S			
133. that's short one and,		G							
134. if you imagine you drawing a vertical line					F				
135. that is not even								R	
136. go beyond the rectangle above it		G							
137. and the arrow to the right.						S			
138. One more just to the right of that,			G						
139. that goes up above the rectangle,					F				
140. the second rectangle					F			R	
141. and has a very long arrow						S			
142. that goes to the left.		G							
143. There are three more arrows						S			
144. that start in the rectangle above.		G			F				
145. One is one that in the right to far left		G							
146. and just misses the previous you drew								R	
147. and the arrows go to the right						S			
148. and it's about six cm long maybe.		G							
149. There is one in between the two		G							
150. furthers right arrows						S			
151. that start up in the bottom section.		G							
152. And that arrow goes to the right						S			
153. and goes maybe about seven cm.		G							
154. There is a far right arrow as well						S			
155. in the bottom section		G							
156. about eight cm high		G							
157. and the arrow go to the left.						S			
158. There is one more			G						
159. and that one starts probably about two cm up		G							
160. from the top of the main rectangle box					F	S			
161. and sits between the two of the arrows						S			
162. that start in the first one		G							
163. that we were looking out.								R	
164. It sits between the imaginary corner		G							
165. of the left hand side		G							
166. of first rectangle,					F				
167. just between the third and the forth one.		G							
168. It extends up about one cm away		G							
169. from the quarter of circle					F				
170. and the arrow goes to the right.						S			

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

171. That's it.				G						
	93				28	33	28			
	182									

DIPLOMA YEAR session 15 - Description 01 (Non-Architectural sketch)

Verbal Cognitive Actions										
Segments	General Descriptions				Features Descriptions		Reflective Descriptions			
	Paper Refer	Size Posit	Gener View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap
1. There are two large horizontal shapes			G		F					
2. at the bottom of the page.		G								
3. One above the other.		G								
4. At the top		G								
5. there is a circle,					F					
6. at the top right.		G								
7. The top left		G								
8. there is a quarter of the circle					F					
9. with bottom right being visible.		G								
10. Is that made sense?								R		
11. From the lower one		G								
12. of the two shapes			G							
13. in the bottom,		G								
14. there are six vertical lines					F					
15. growing up.						S				
16. Not all way,		G								
17. but to different highs.			G							
18. One of this gets to the circle high					F					
19. and then go down,		G								
20. then taking down		G								
21. a much smaller degree		G								
22. at a slight angle.		G								
23. So like up side down tick,						S				
24. very small in the page.		G								
25. From the upper shape		G								
26. there are three vertical lines,					F					
27. all with this up side down tick aspect.						S				
28. There is one coming up			G							
29. above this shape,		G								
30. above.		G								R
I think that's it.				G						
	22				6	3	2			
	33									

DIPLOMA YEAR session 15 - Description 02 (Architectural sketch)

Verbal Cognitive Actions											
Segments	General Descriptions				Features Descriptions		Reflective Descriptions				
	Paper Refer	Size Posit	Genel View	Concl usive	Formal	Symbol	Judgm	Remem	Reflect	Recap	
1. The second one is a large box square.					F	S					
2. Is like a plan of the building,						S					
3. which is finished square.					F						
4. The top on that,		G									
5. lines are very slight ticker.						S					
6. Horizontally through the middle,		G									
7. you have this kind of corridor						S					
8. runs of each vertical lines					F						
9. of the plan,						S					
10. creating a top half and a bottom half.		G									
11. On the top half,		G									
12. this rectangle now created,					F						
13. has through its right		G									
14. a further compartment,						S					
15. which is a corner of rectangle.					F						
16. So it's a oblong stretch					F						
17. on its right hand side.		G									
18. Coming from the middle corridor						S					
19. there is a small strip,						S					
20. just out of the square,					F						
21. continuing for maybe a quarter of the length		G									
22. of the actual square.					F						
23. Just out, very far.		G									
24. Further to that there is another square.					F						
25. It's a large square					F						
26. but still... forget that, it's indescribable .							R				
27. It's a square,					F						
28. which is about the same width		G									
29. as the corridor,						S					
30. coming out the same length		G									
31. of the corridor,						S					
32. of the square.					F						
33. To the bottom of the big square,					F						
34. there is a ... well draw a line					F						
35. from the actual corridor						S					
36. on the bottom half of the square.		G			F						
37. Draw a line					F						
38. from the middle of the corridor		G				S					
39. down to the bottom horizontal line		G			F						
40. of the square.					F						
41. Continue this for another half		G									
42. or another quarter.					F						
43. The same distance as the bit,											
44. just up the corridor before.			G								

Sketching and visual perception in conceptual design
Annex V – Segments and verbal cognitive actions

45. From the right-hand wall,						S				
46. another compartment,						S				
47. just out of the big square.		G				F				
48. So from that, just draw a line down						F				
49. towards your left and then coming		G								
50. from the left hand wall down,						S				
51. so they both meet.			G							
52. That's ok.				G						
		19			21	15	1			
		56								

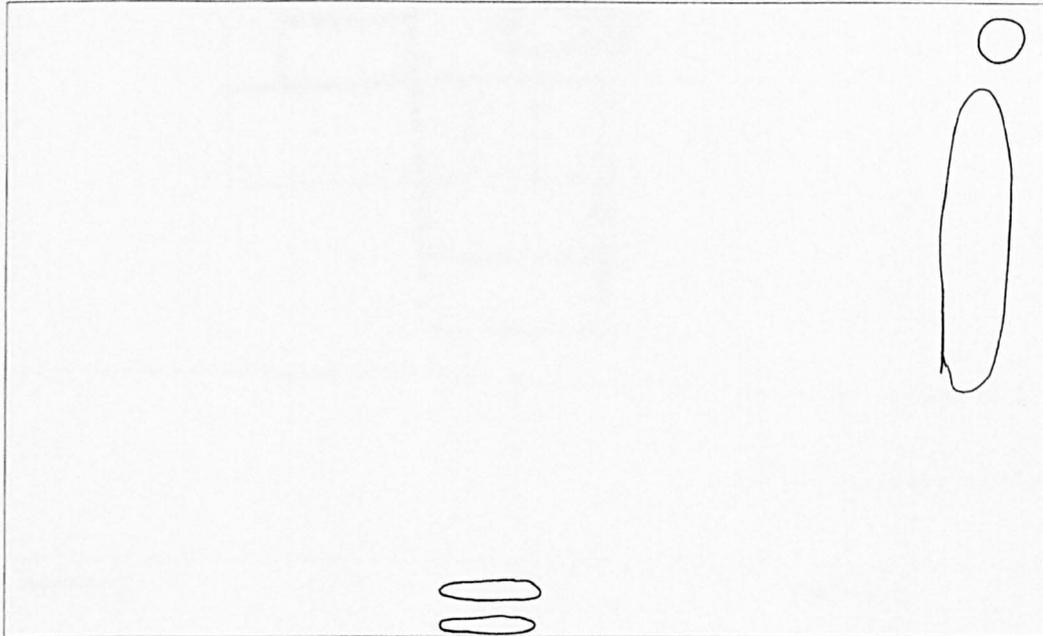
Annex VI

Drawings from the description task

1 - FIRST YEAR GROUP – Drawings from Description Task

FIRST YEAR GROUP/Session 01 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

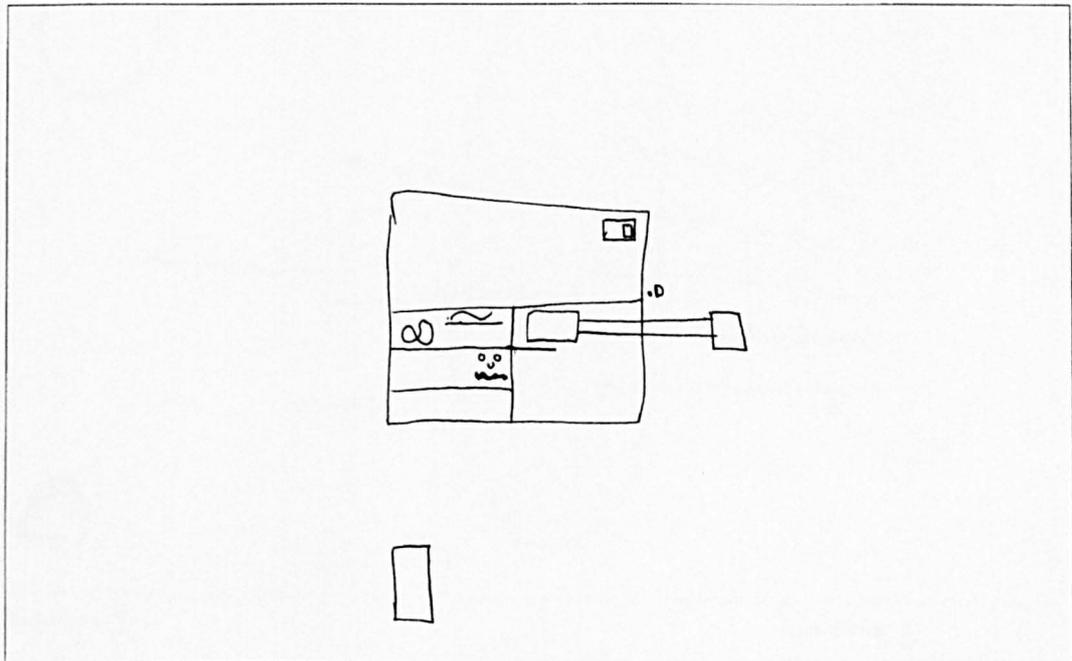


Experiment n° 1

Description n° 1

FIRST YEAR GROUP /Session 01 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

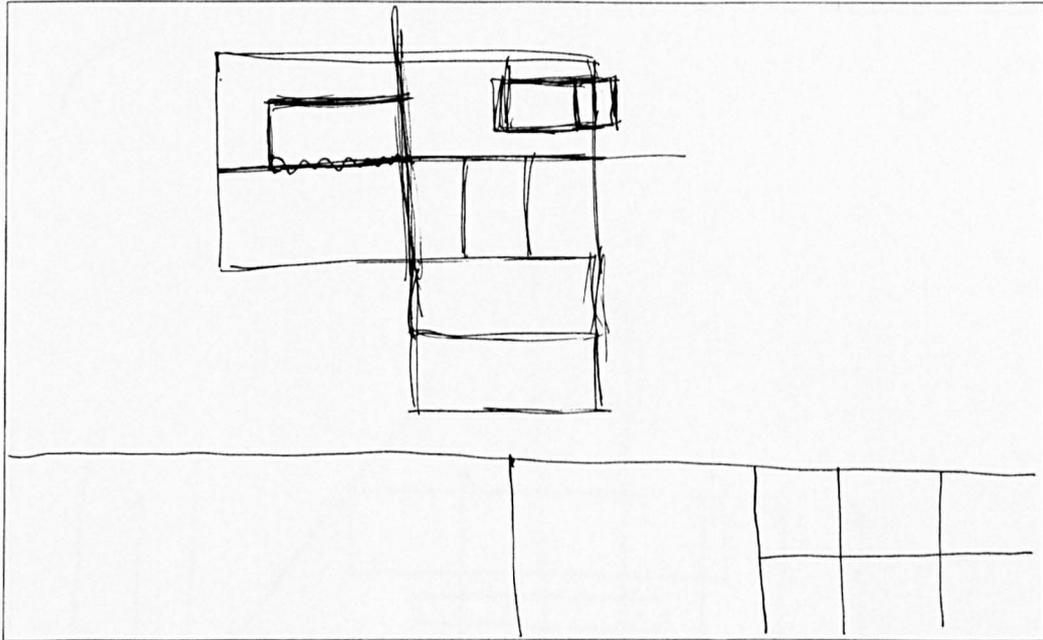


Experiment n° 1

Description n° 2

FIRST YEAR GROUP /Session 02 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

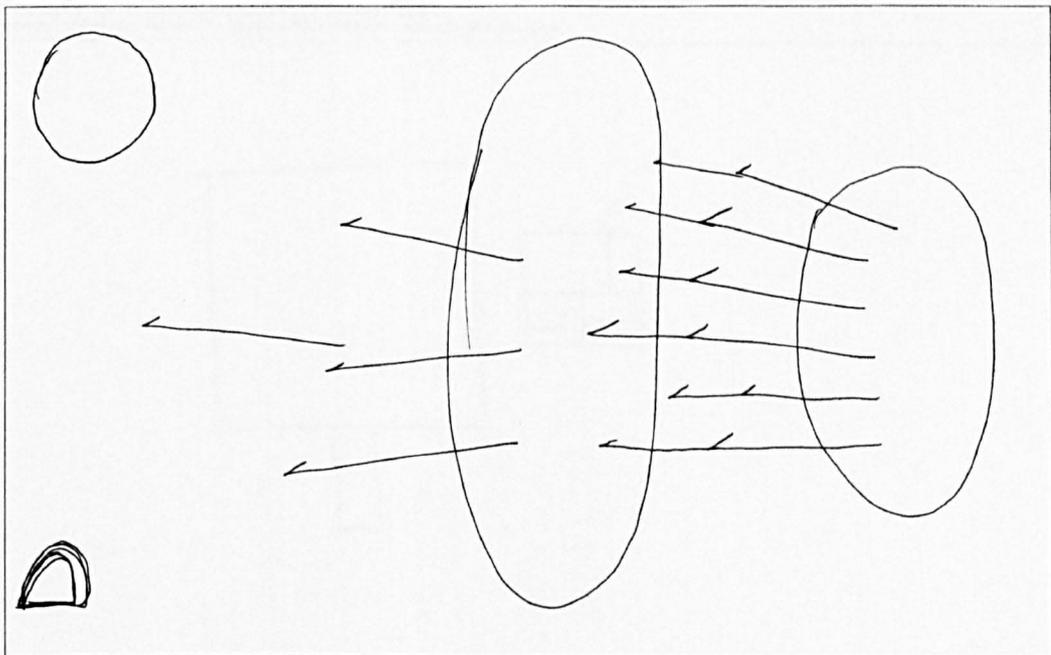


Experiment n° 2

Description n° 1

FIRST YEAR GROUP/ Session 02 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

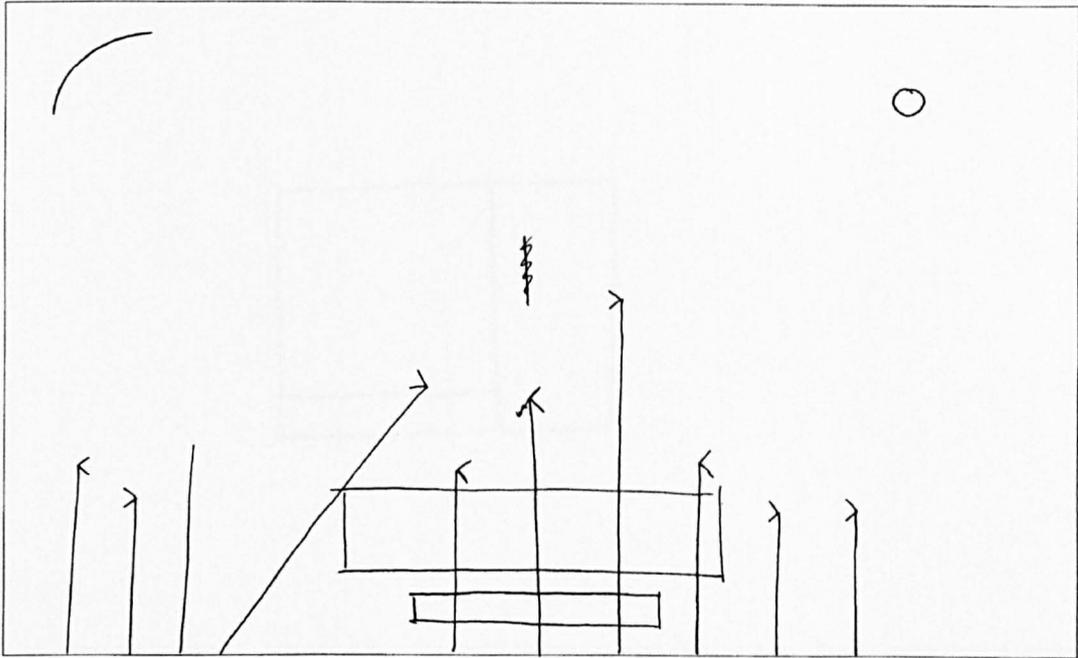


Experiment n° 2

Description n° 2

FIRST YEAR GROUP /Session 03 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

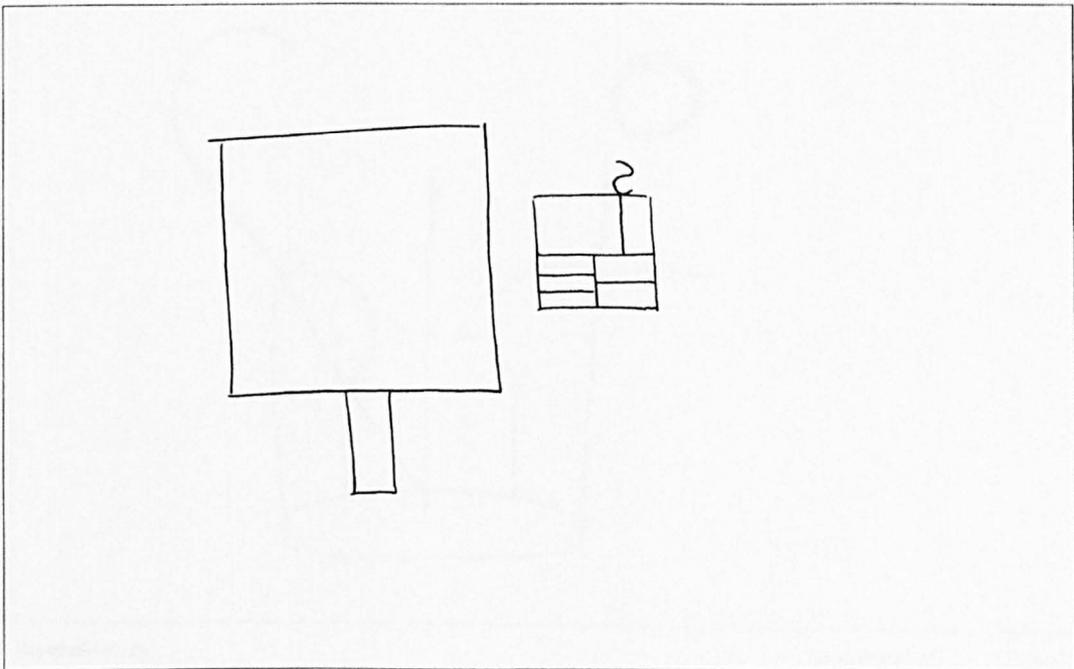


Experiment n° 12

Description n° 1

FIRST YEAR GROUP /Session 03 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

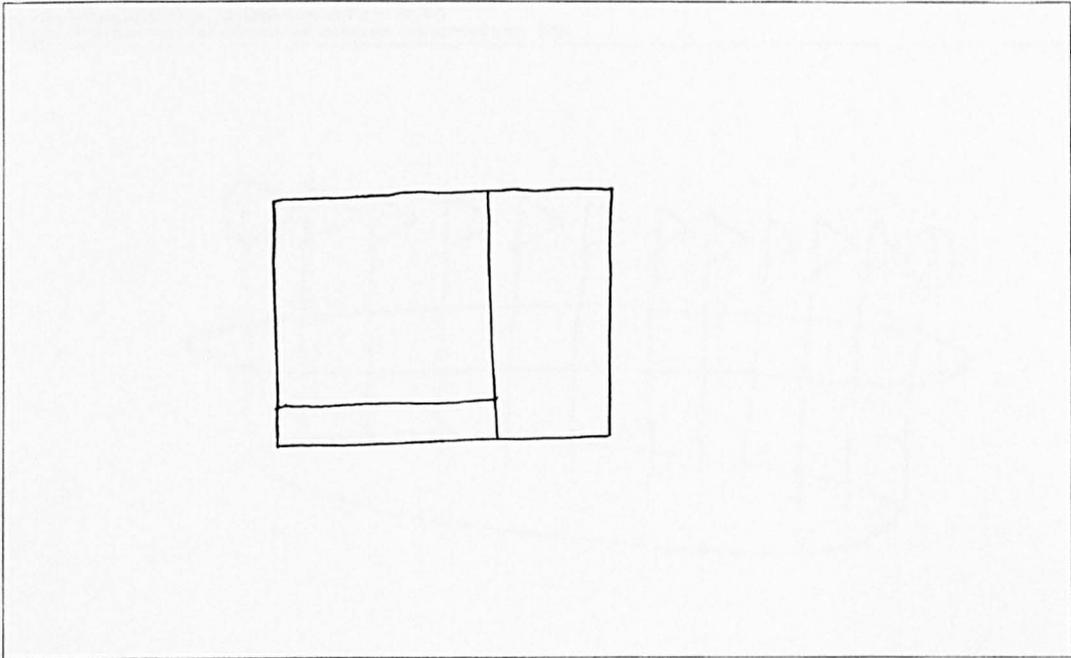


Experiment n° 12

Description n° 2

FIRST YEAR GROUP /Session 04 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

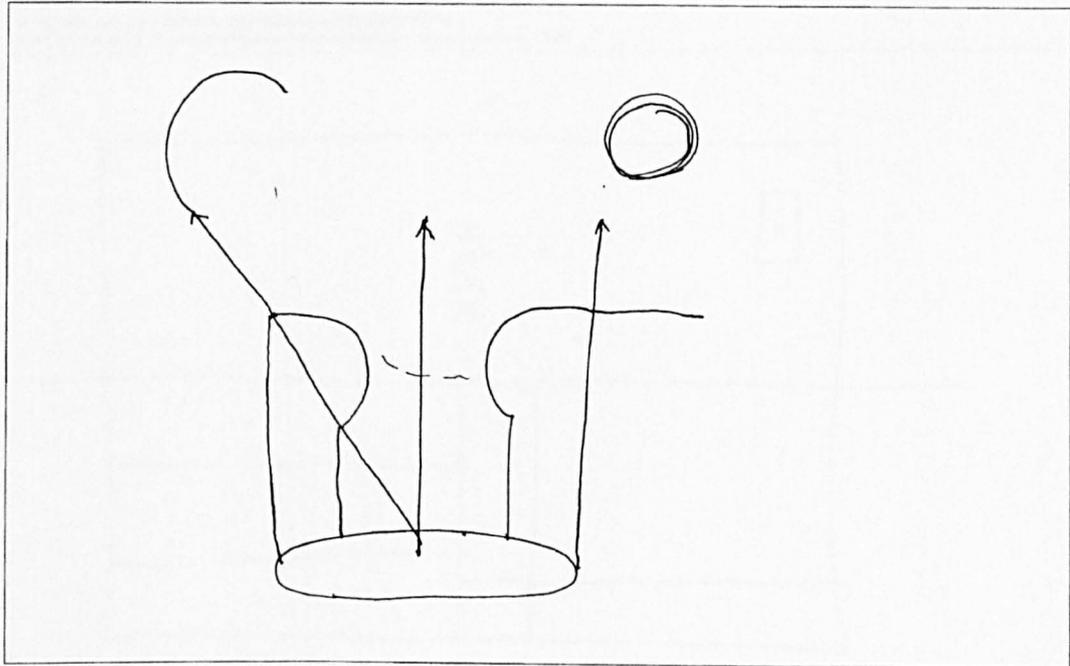


Experiment n° 13

Description n° 1

FIRST YEAR GROUP /Session 04 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

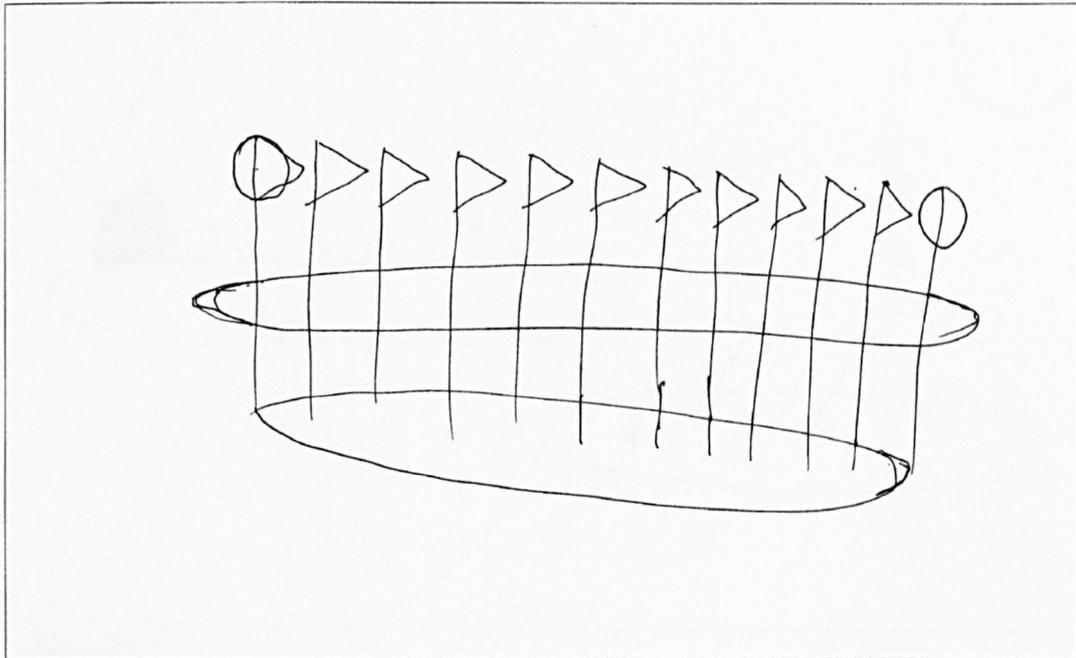


Experiment n° 13

Description n° 2

FIRST YEAR GROUP /Session 05 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture – PhD Architecture – Alexandre Menezes – 2002

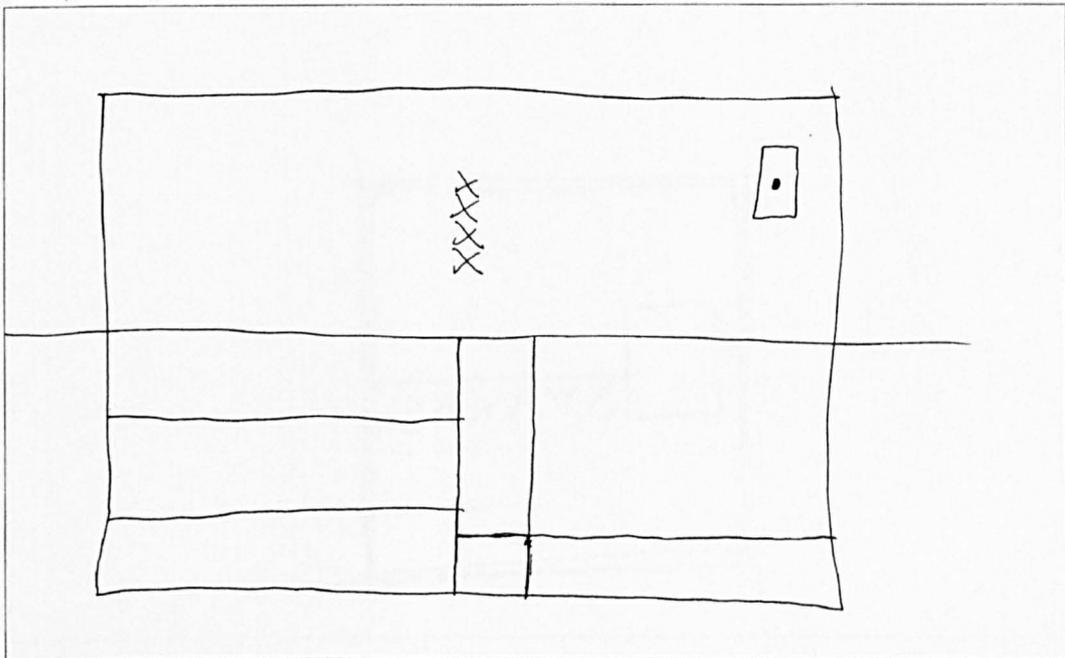


Experiment n° 14

Description n° 1

FIRST YEAR GROUP /Session 05 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture – PhD Architecture – Alexandre Menezes – 2002

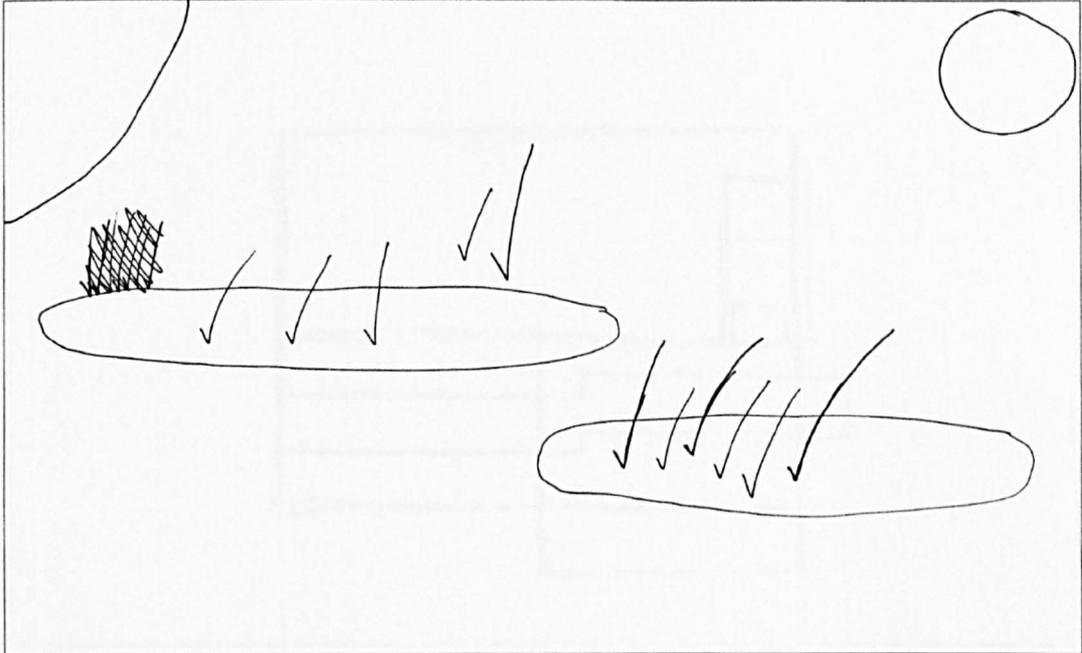


Experiment n° 14

Description n° 2

FIRST YEAR GROUP /Session 06 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture - Alexandre Menezes – 2002

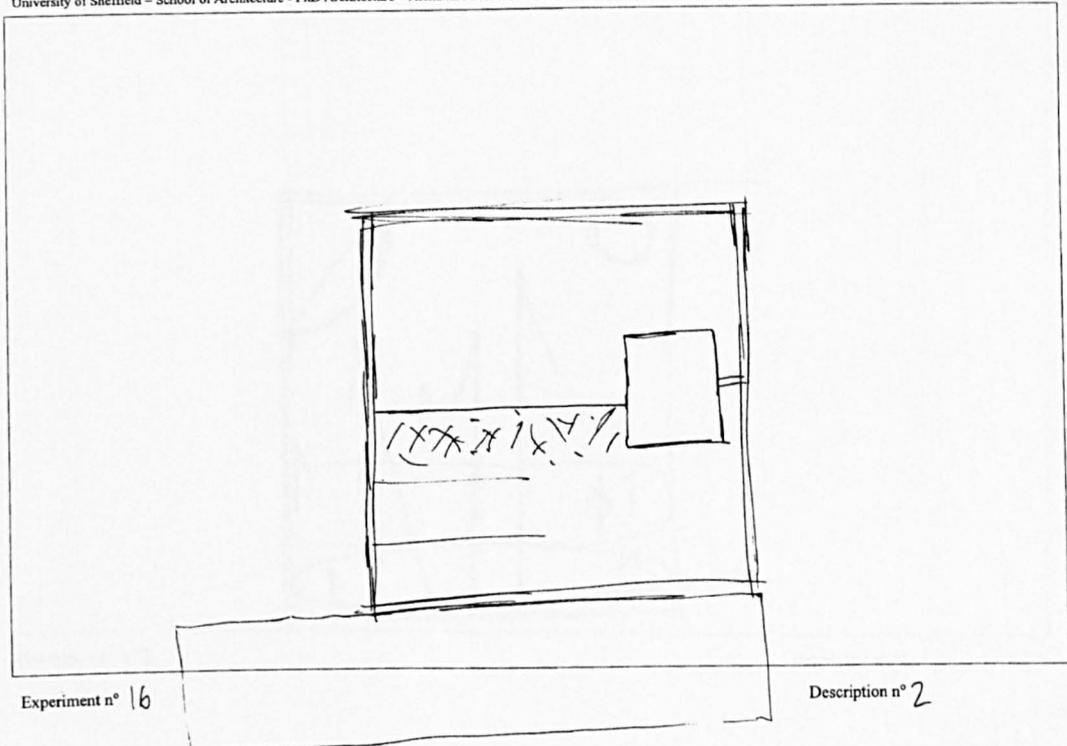


Experiment n° 16

Description n° 1

FIRST YEAR GROUP /Session 06 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture - Alexandre Menezes – 2002

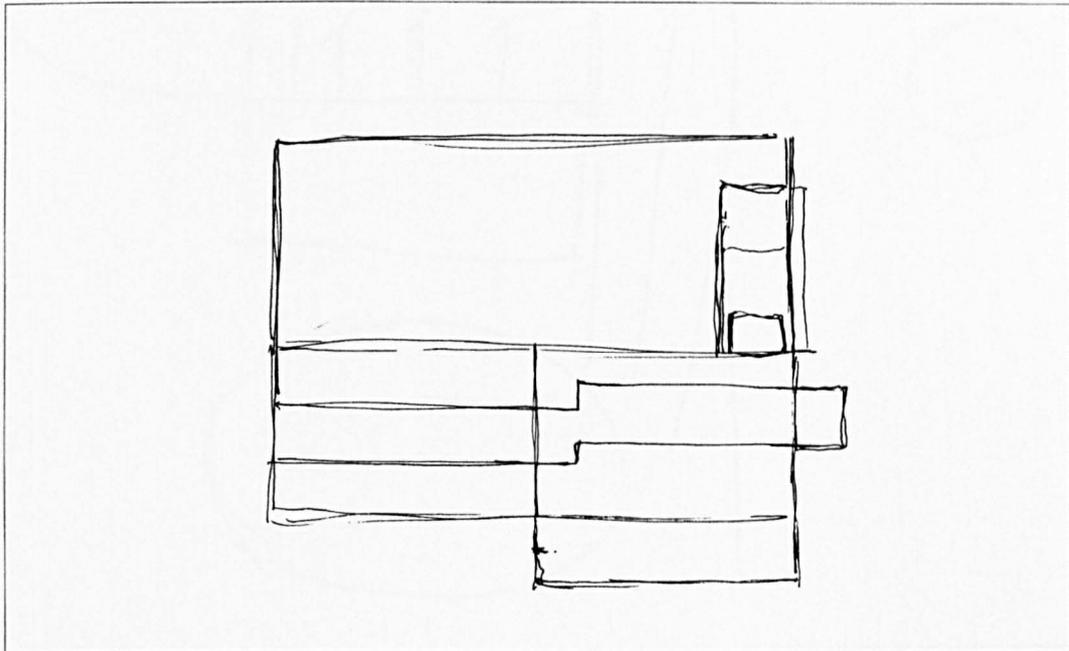


Experiment n° 16

Description n° 2

FIRST YEAR GROUP /Session 07 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

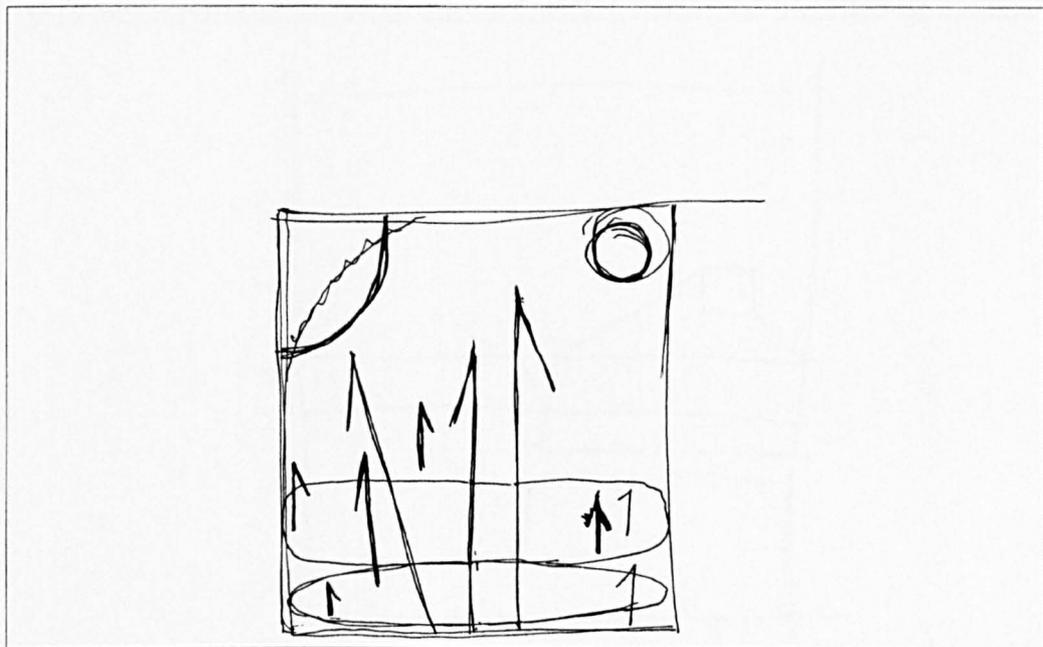


Experiment n° 17

Description n° 1

FIRST YEAR GROUP /Session 07 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

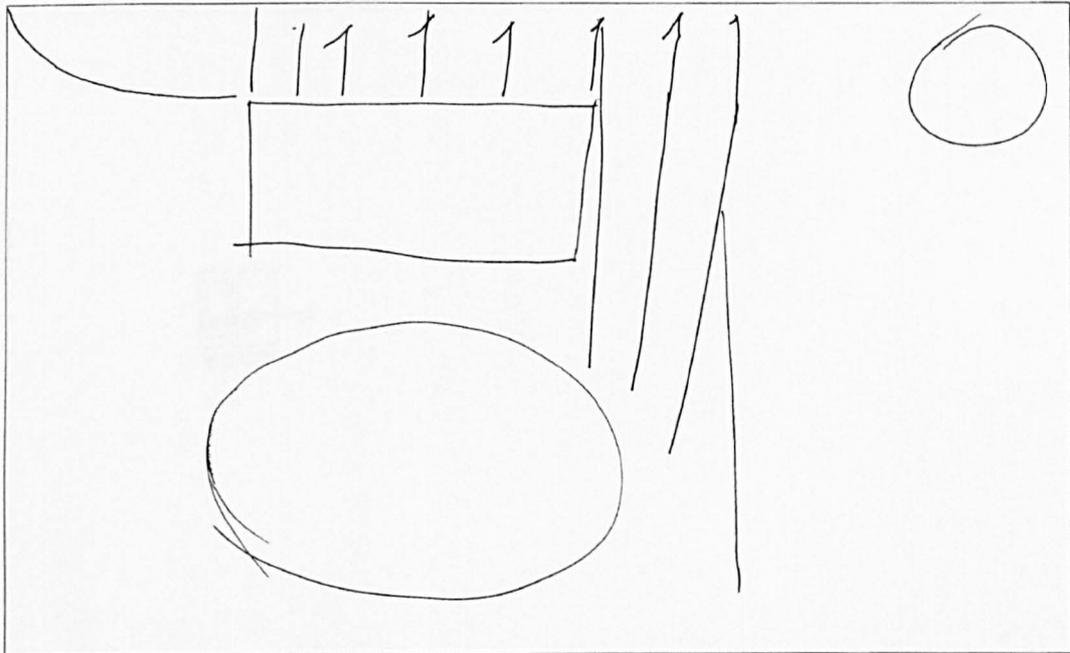


Experiment n° 17

Description n° 2

FIRST YEAR GROUP /Session 08 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture – PhD Architecture – Alexandre Menezes – 2002

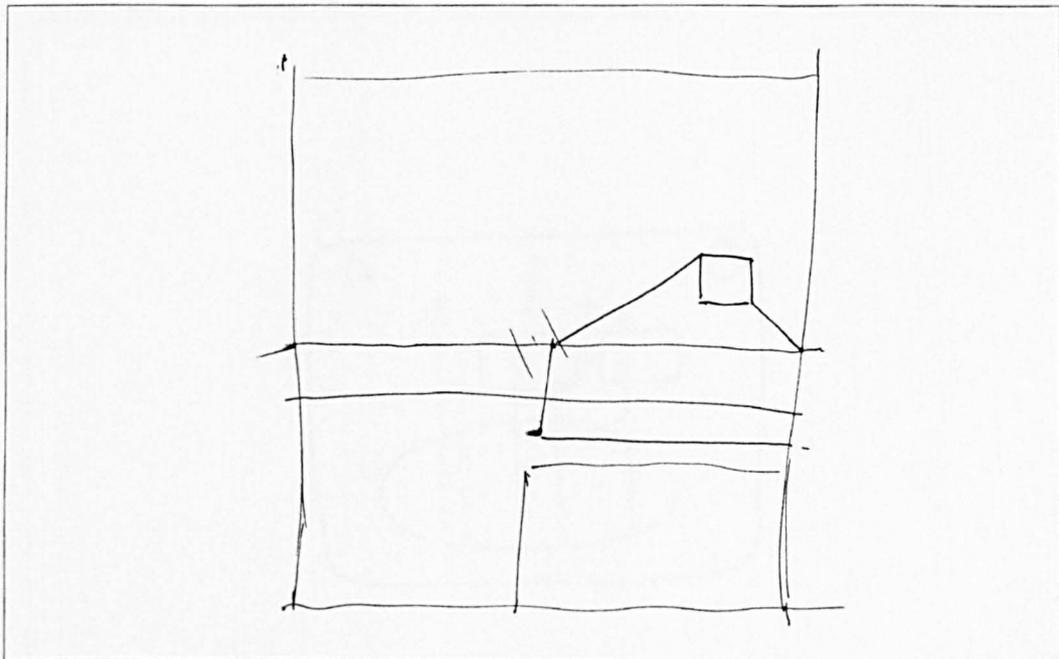


Experiment n° 18

Description n° 1

FIRST YEAR GROUP /Session 08 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture – PhD Architecture – Alexandre Menezes – 2002

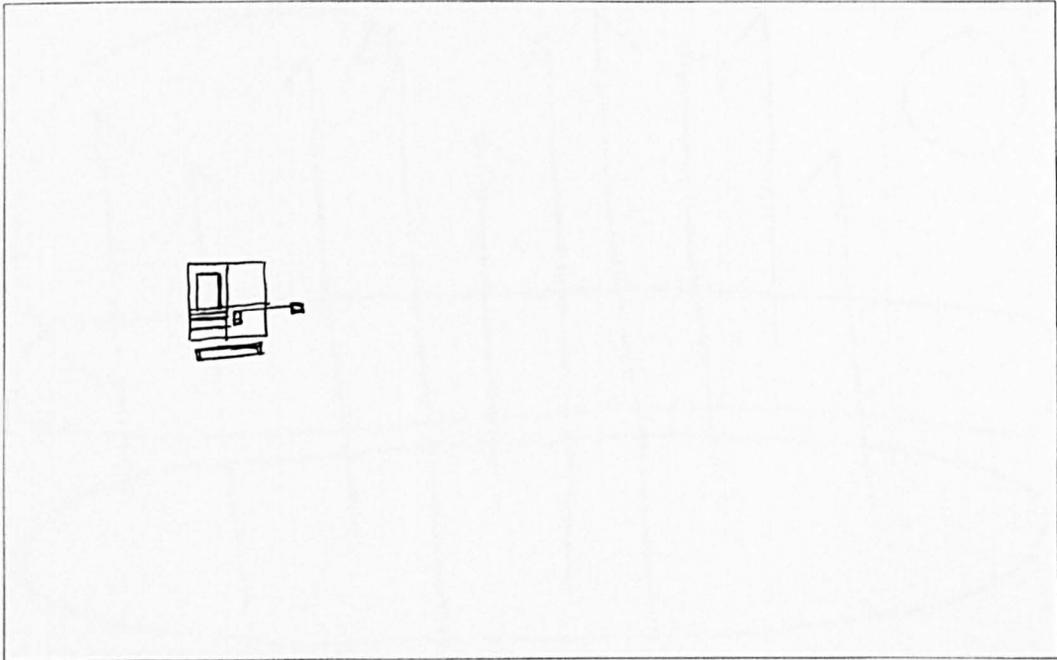


Experiment n° 18

Description n° 2

FIRST YEAR GROUP /Session 09 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

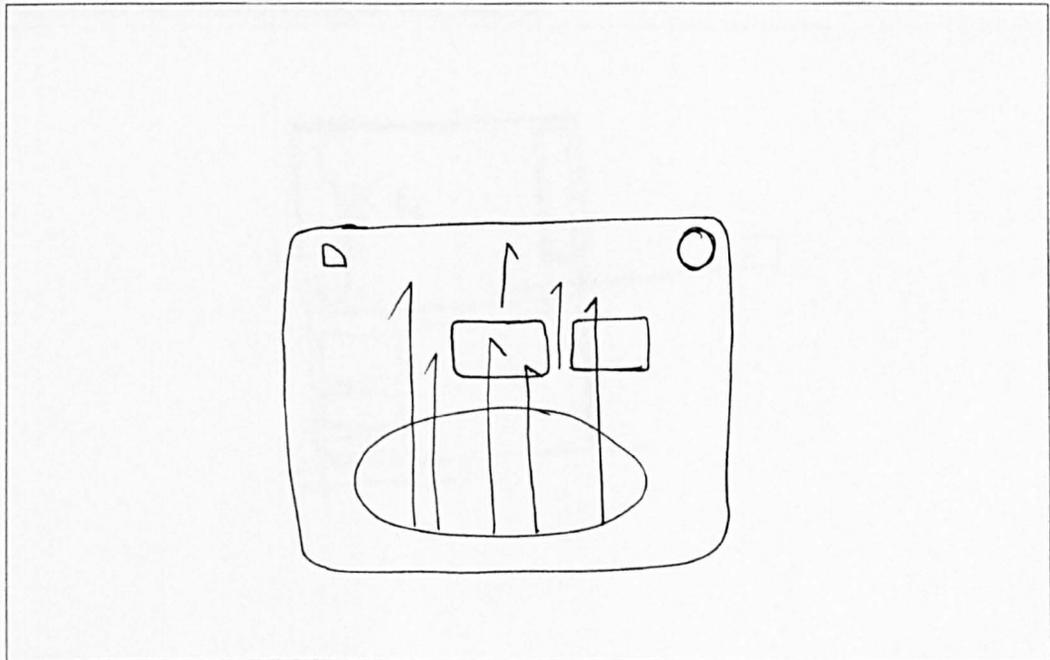


Experiment n° 19

Description n° 1

FIRST YEAR GROUP /Session 09 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

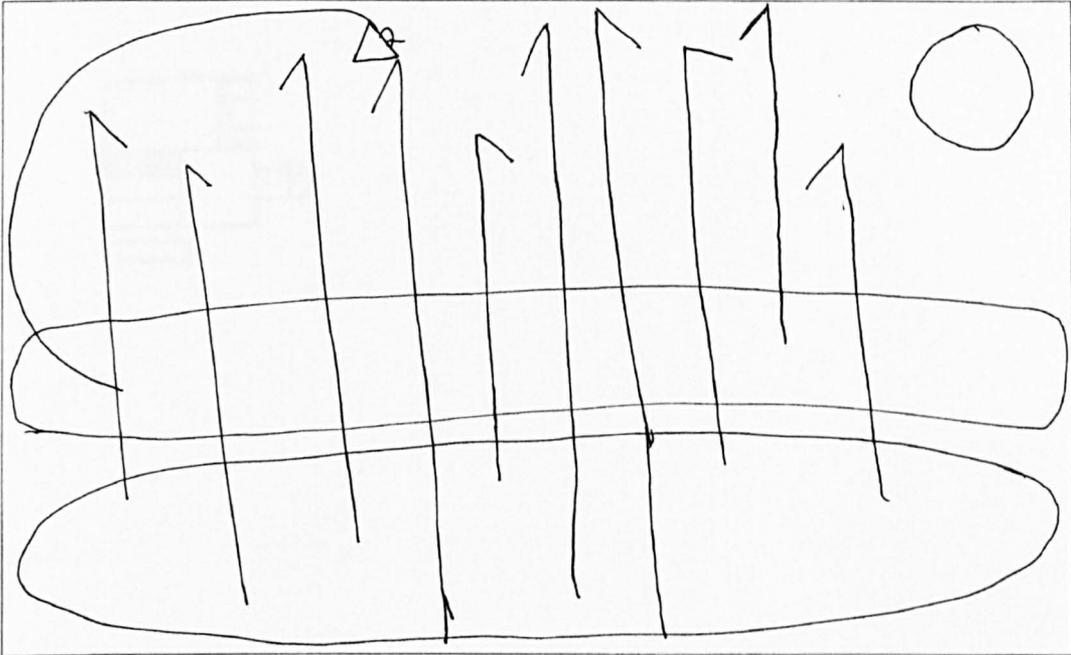


Experiment n° 19

Description n° 2

FIRST YEAR GROUP /Session 10 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

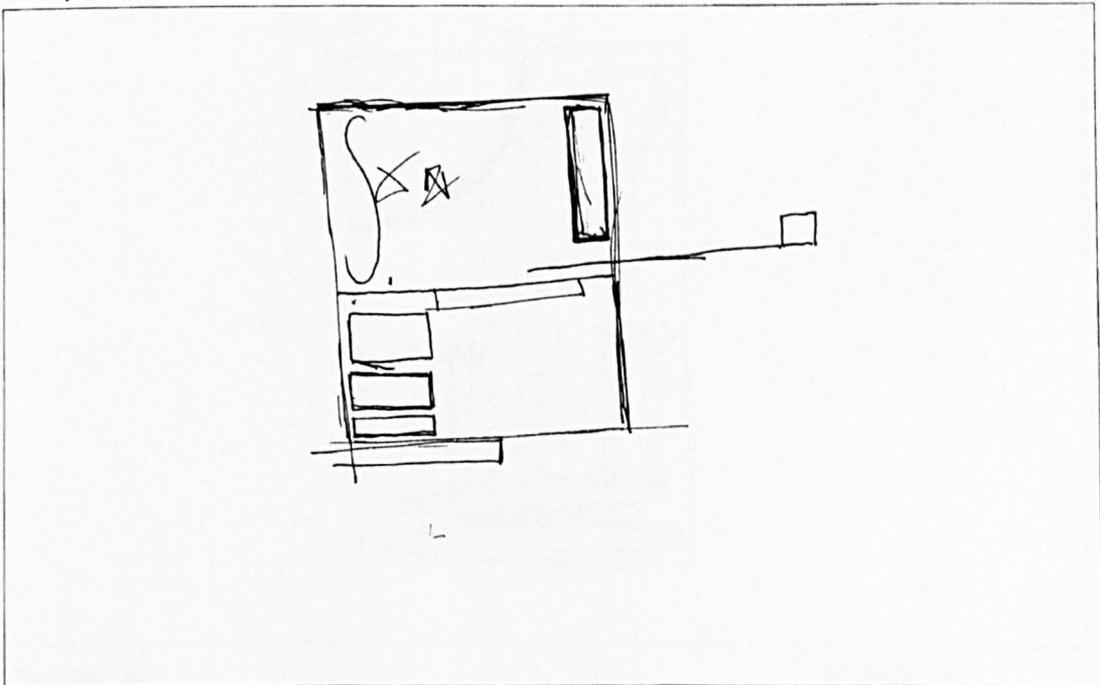


Experiment n° 20

Description n° 1

FIRST YEAR GROUP /Session 10 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

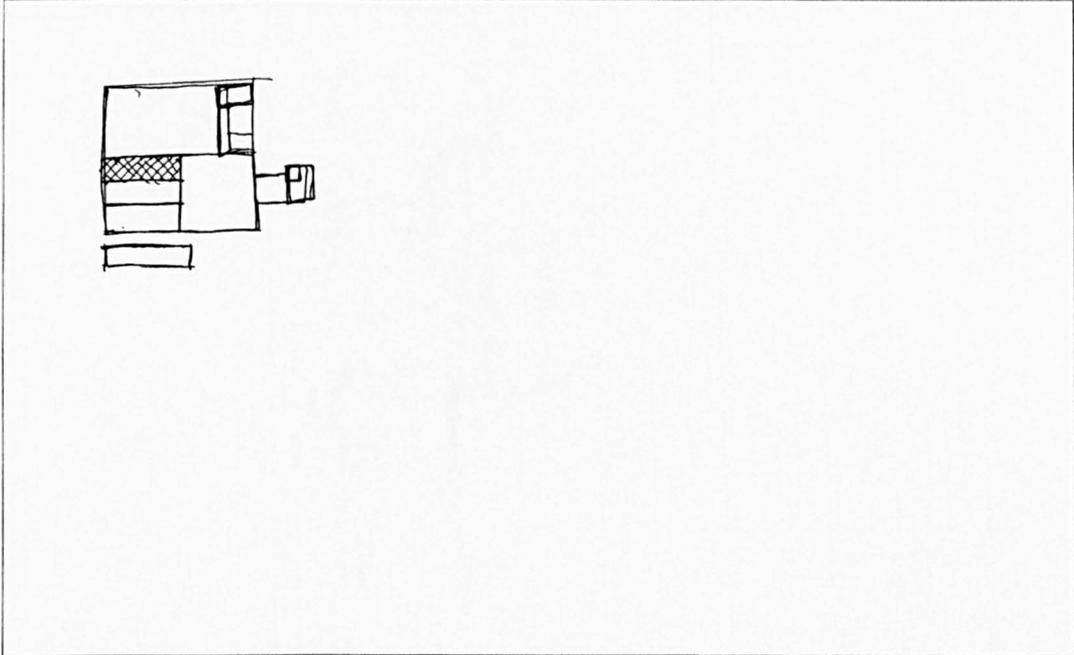


Experiment n° 20

Description n° 2

FIRST YEAR GROUP /Session 11 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

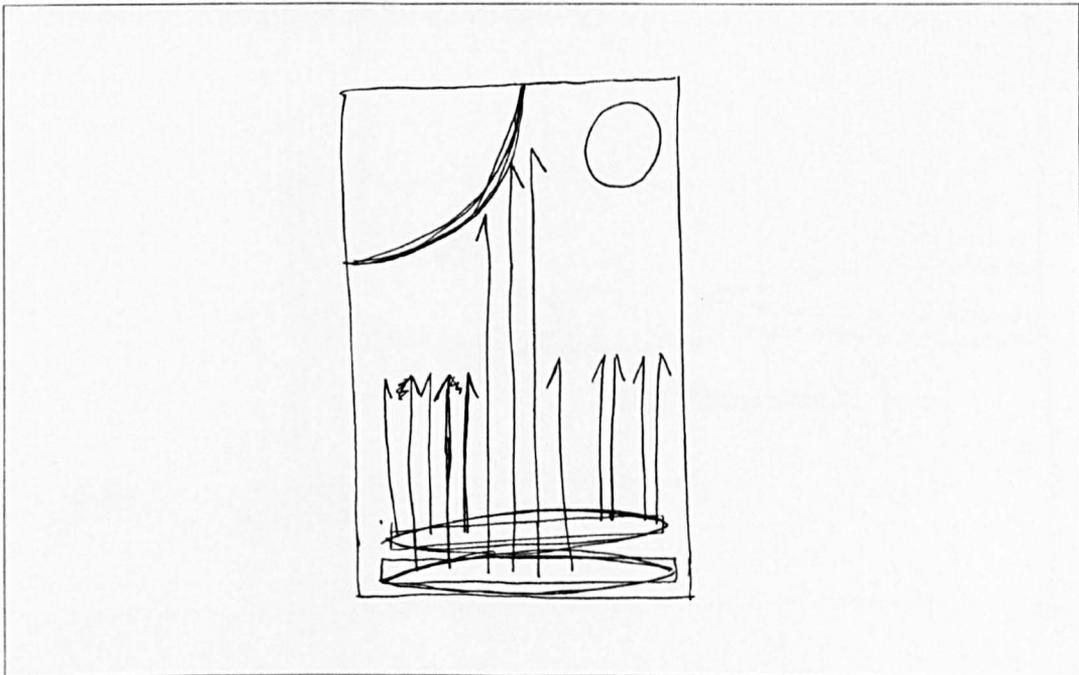


Experiment n° 21

Description n° 1

FIRST YEAR GROUP /Session 11 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

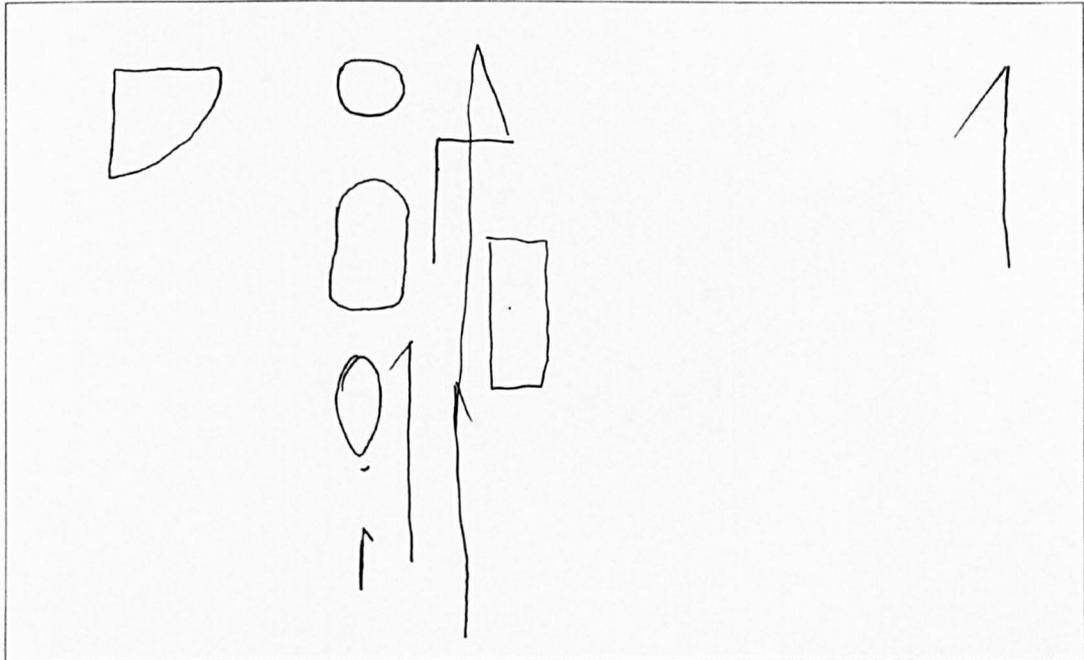


Experiment n° 21

Description n° 2

FIRST YEAR GROUP /Session 12 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

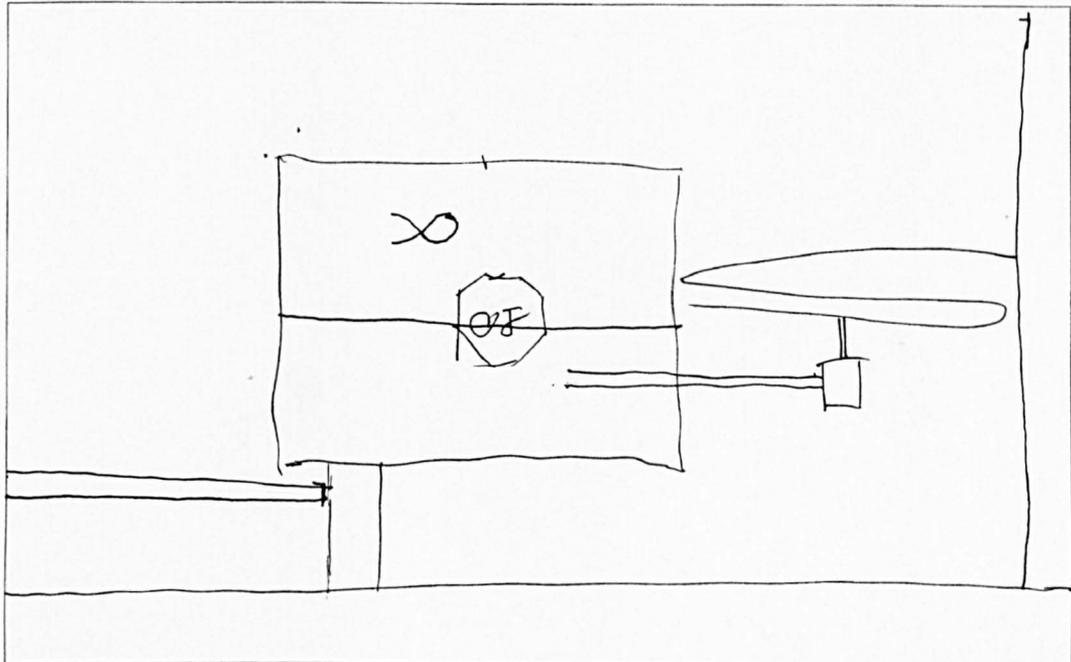


Experiment n° 22

Description n° 1

FIRST YEAR GROUP /Session 12 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

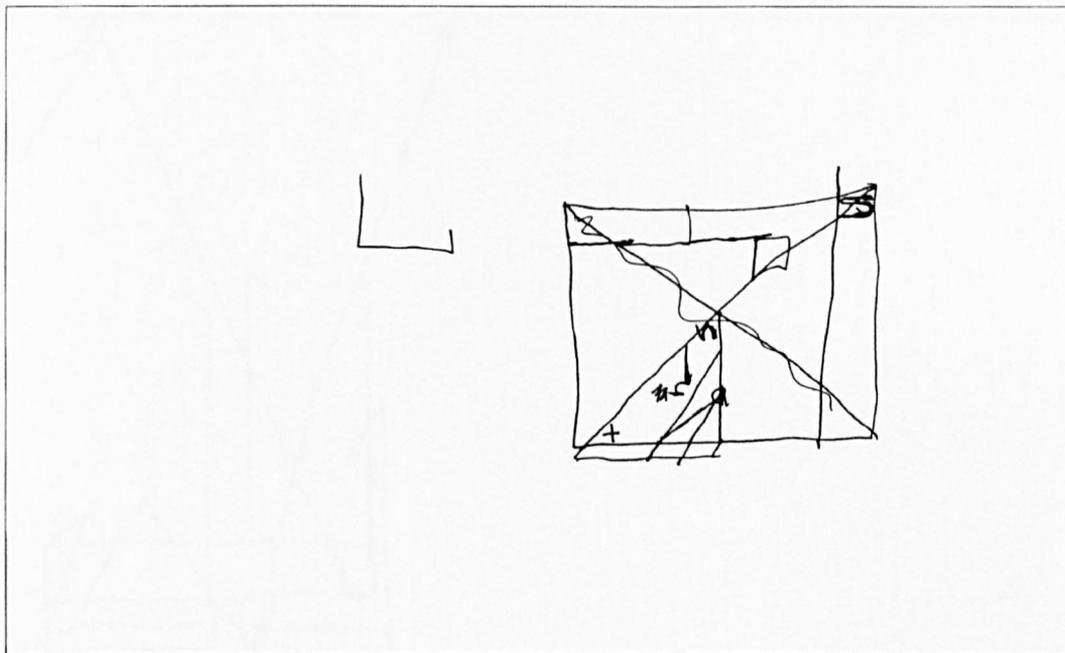


Experiment n° 22

Description n° 2

FIRST YEAR GROUP /Session 13 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

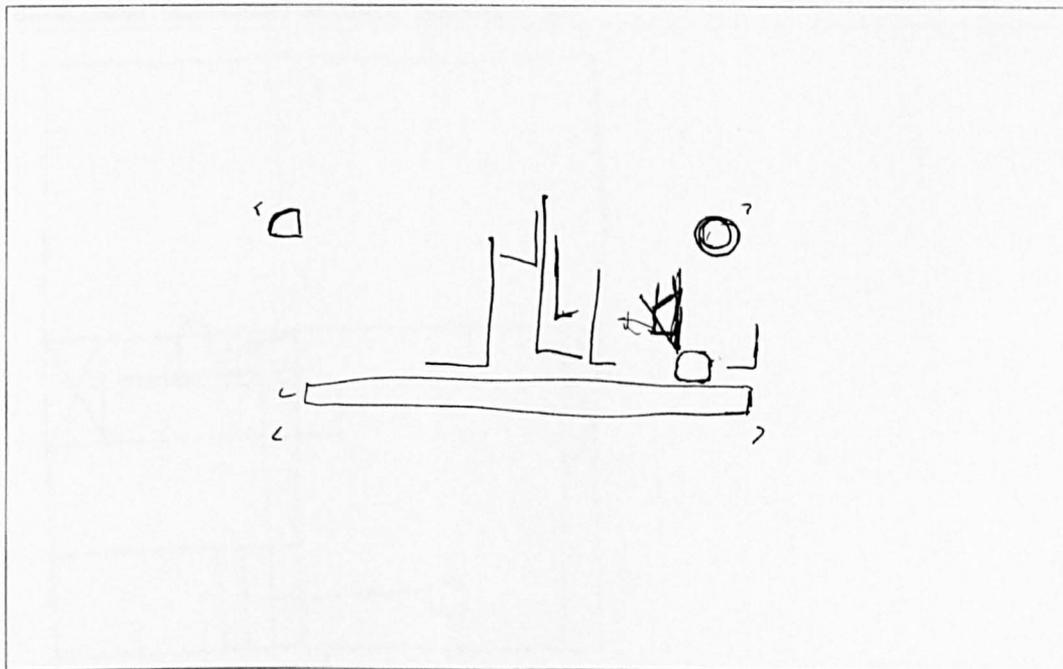


Experiment n° 23

Description n° 1

FIRST YEAR GROUP /Session 13 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

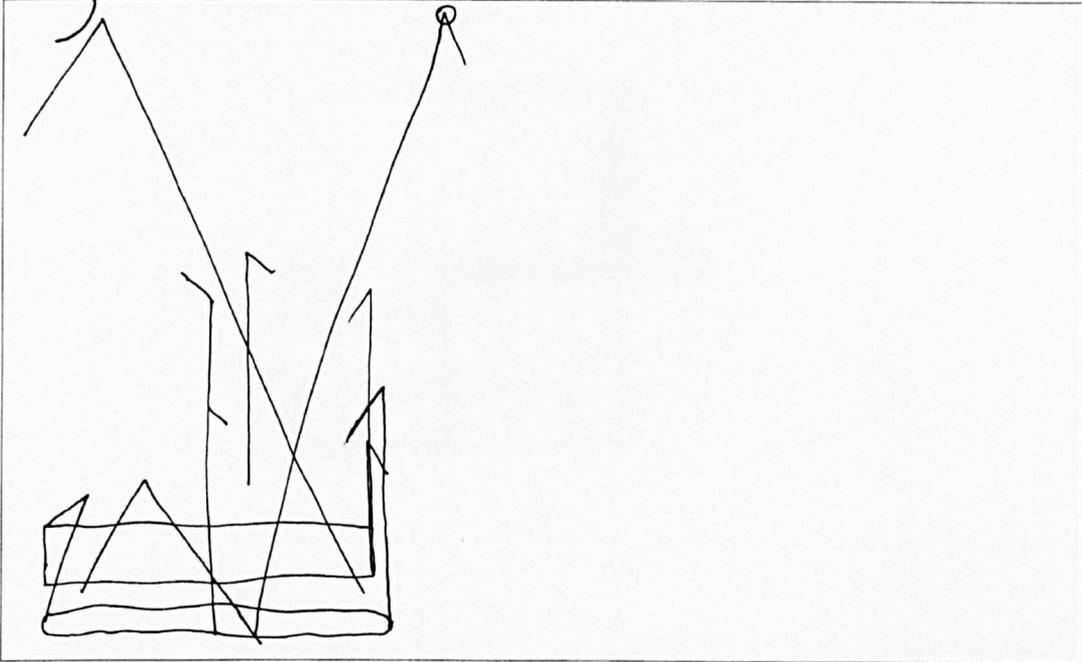


Experiment n° 23

Description n° 2

FIRST YEAR GROUP /Session 14 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

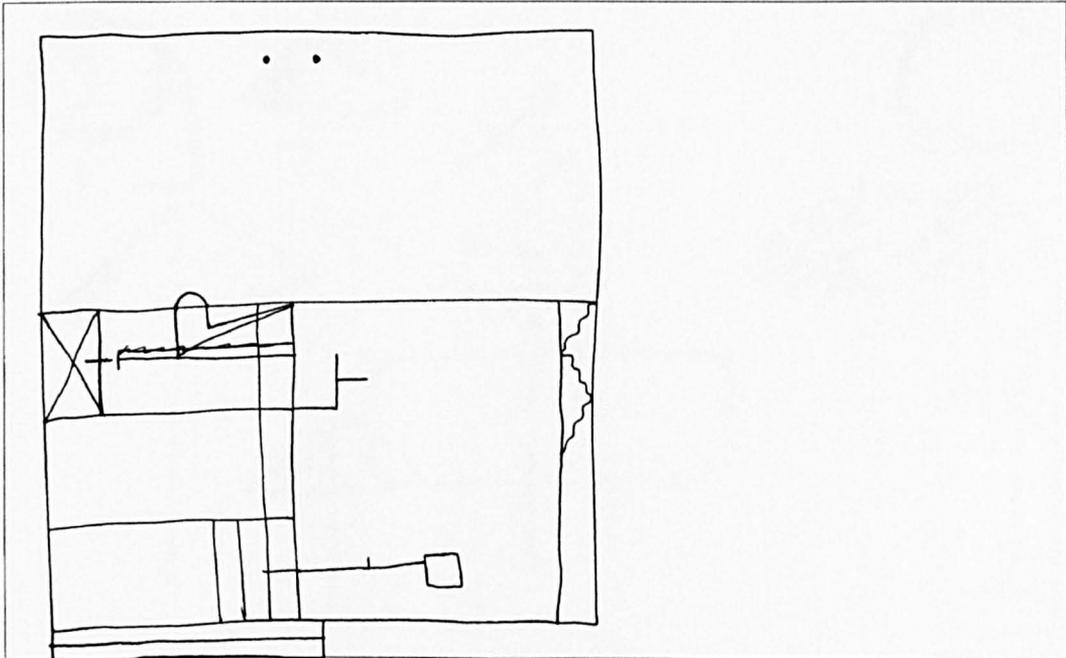


Experiment n° 24

Description n° 1

FIRST YEAR GROUP /Session 14 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

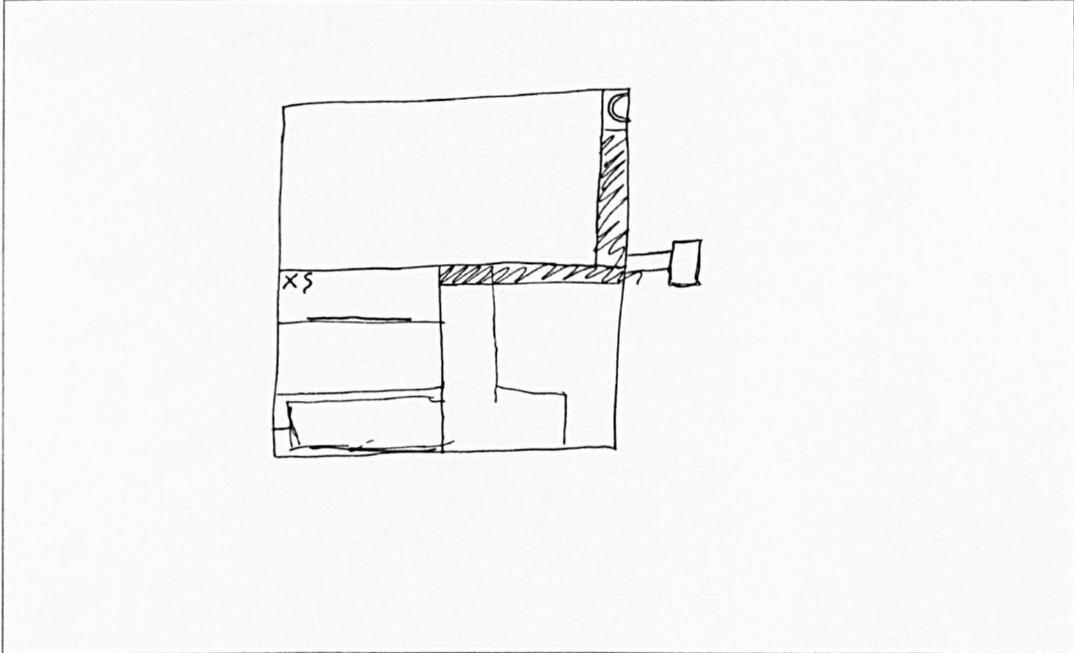


Experiment n° 24

Description n° 2

FIRST YEAR GROUP /Session 15 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

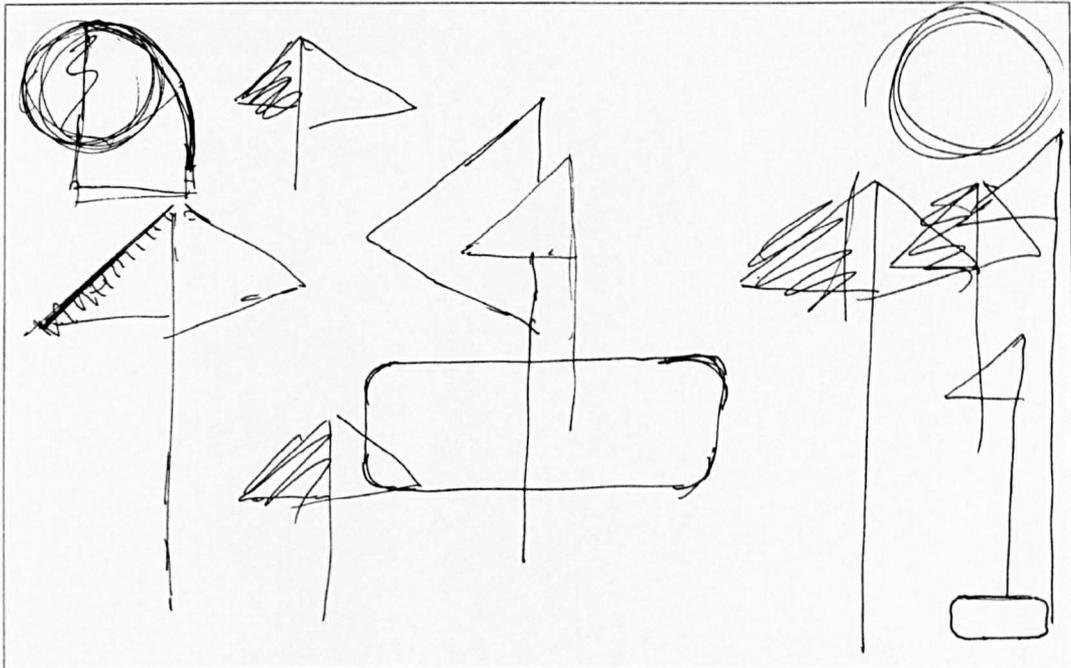


Experiment n° 25

Description n° 1

FIRST YEAR GROUP /Session 15 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



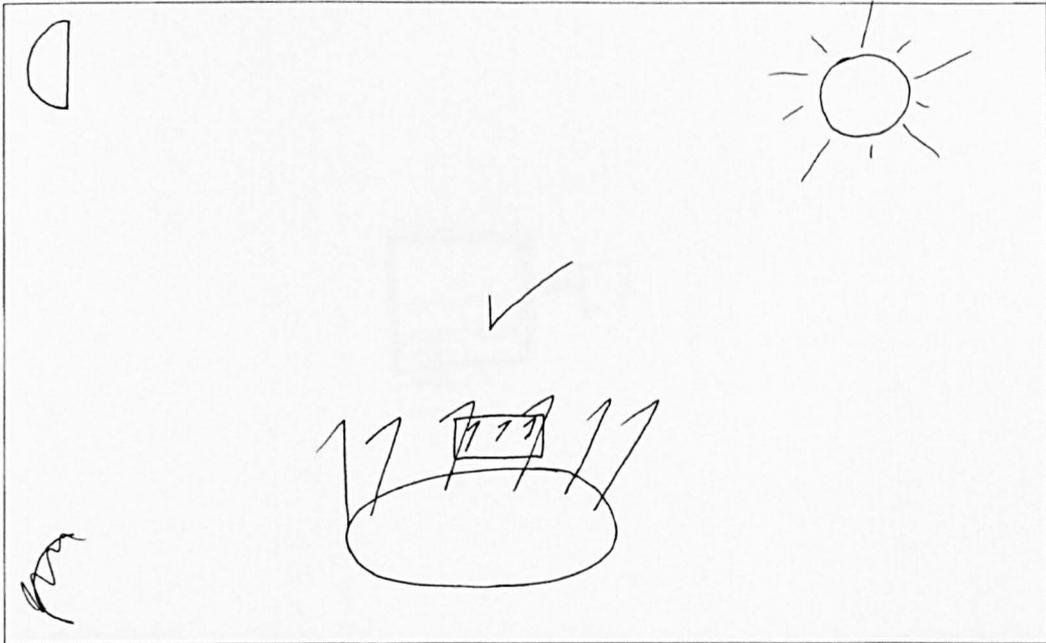
Experiment n° 25

Description n° 2

2 - DIPLOMA YEAR GROUP – Drawings from Descriptions

DIPLOMA YEAR GROUP/Session 01 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

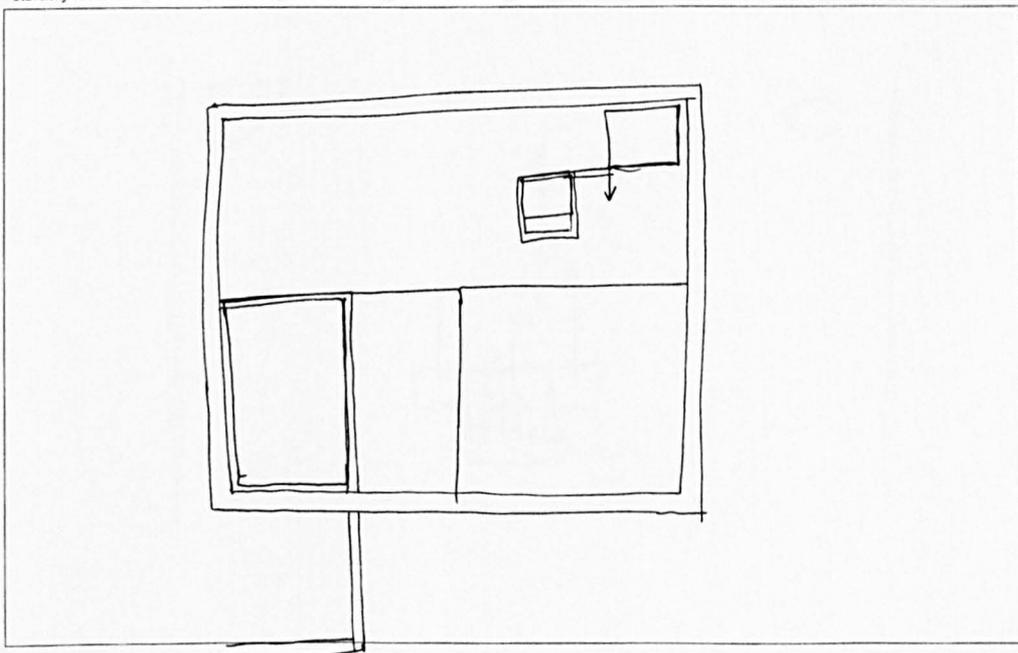


Experiment n° 3

Description n° 1

DIPLOMA YEAR GROUP/Session 01 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

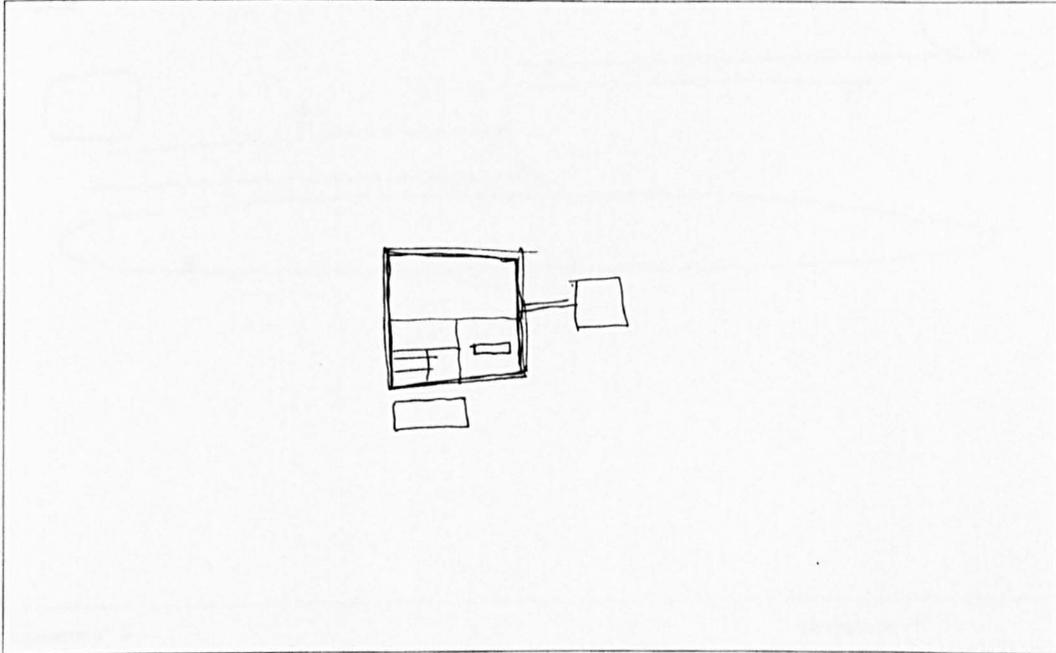


Experiment n° 2

Description n° 2

DIPLOMA YEAR GROUP/Session 02 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

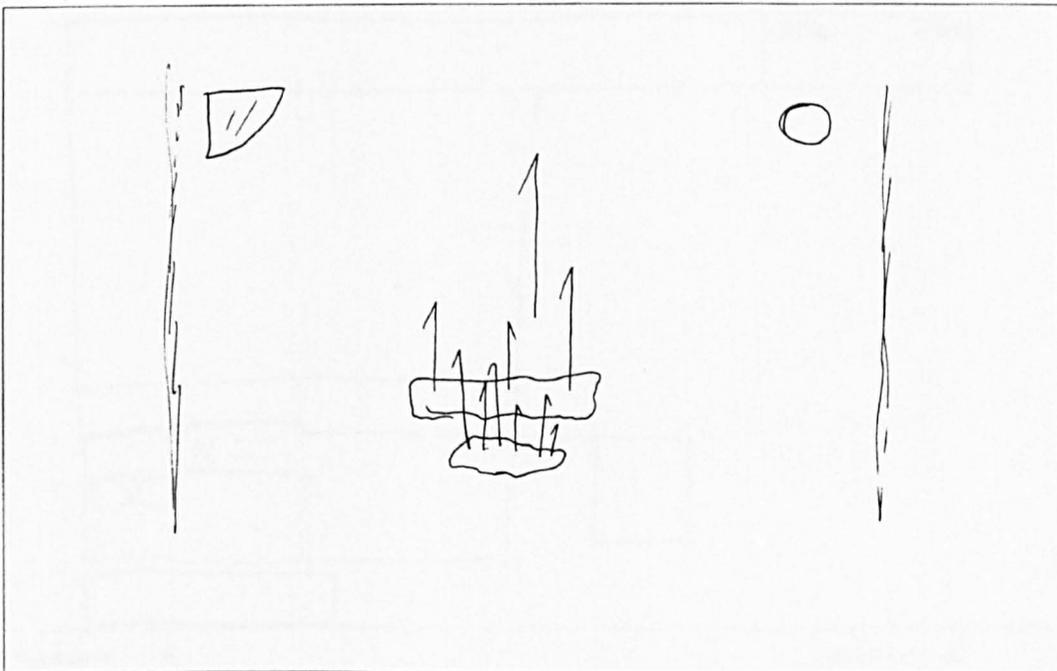


Experiment n° 4

Description n° 1

DIPLOMA YEAR GROUP/Session 02 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

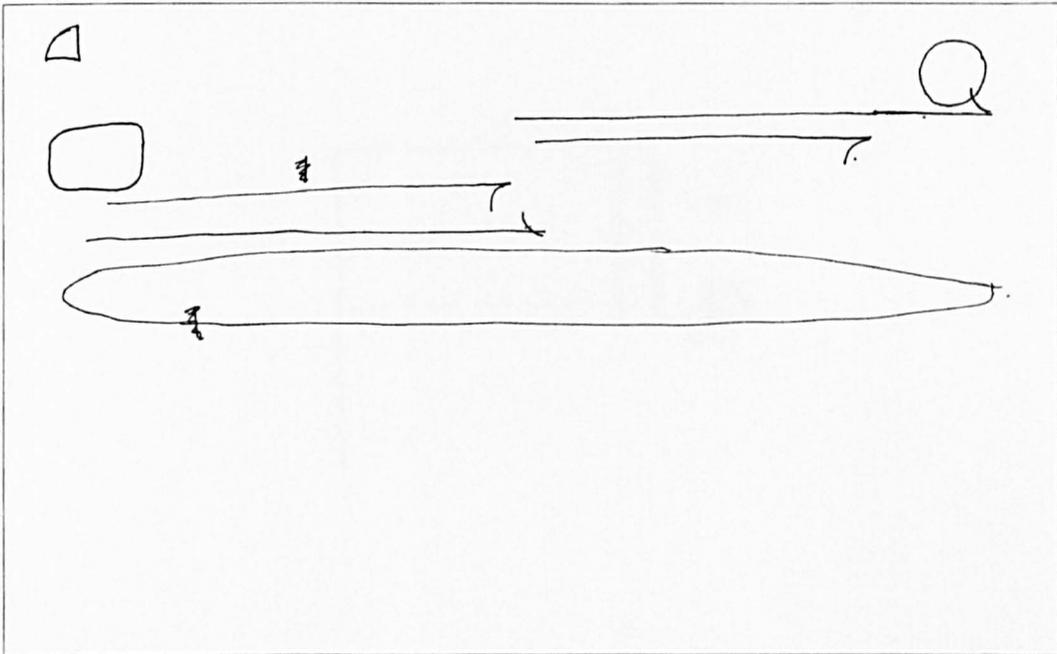


Experiment n° 4

Description n° 2

DIPLOMA YEAR GROUP/Session 03 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture - Alexandre Menezes – 2002

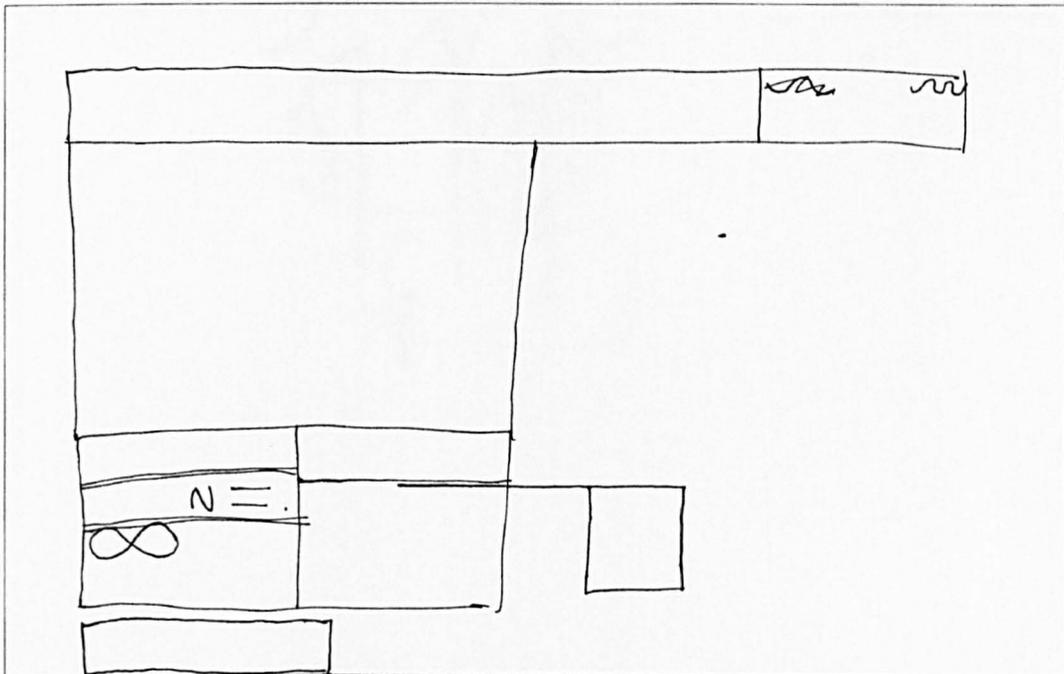


Experiment n° 5

Description n° |

DIPLOMA YEAR GROUP/Session 03 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture - Alexandre Menezes – 2002

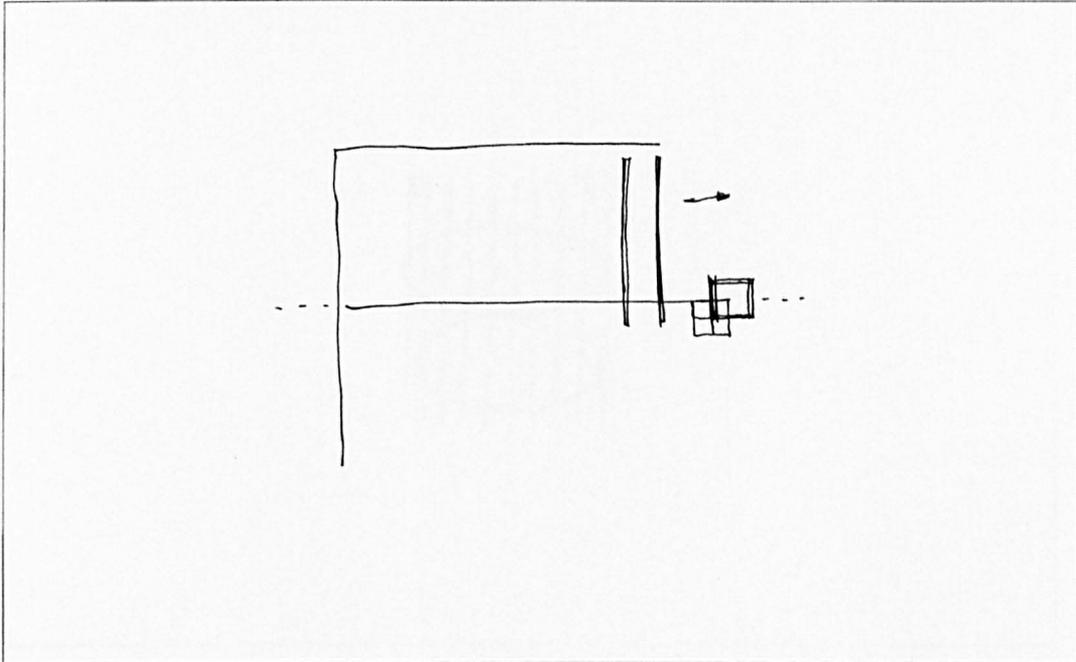


Experiment n° 5

Description n° 2

DIPLOMA YEAR GROUP/Session 04 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

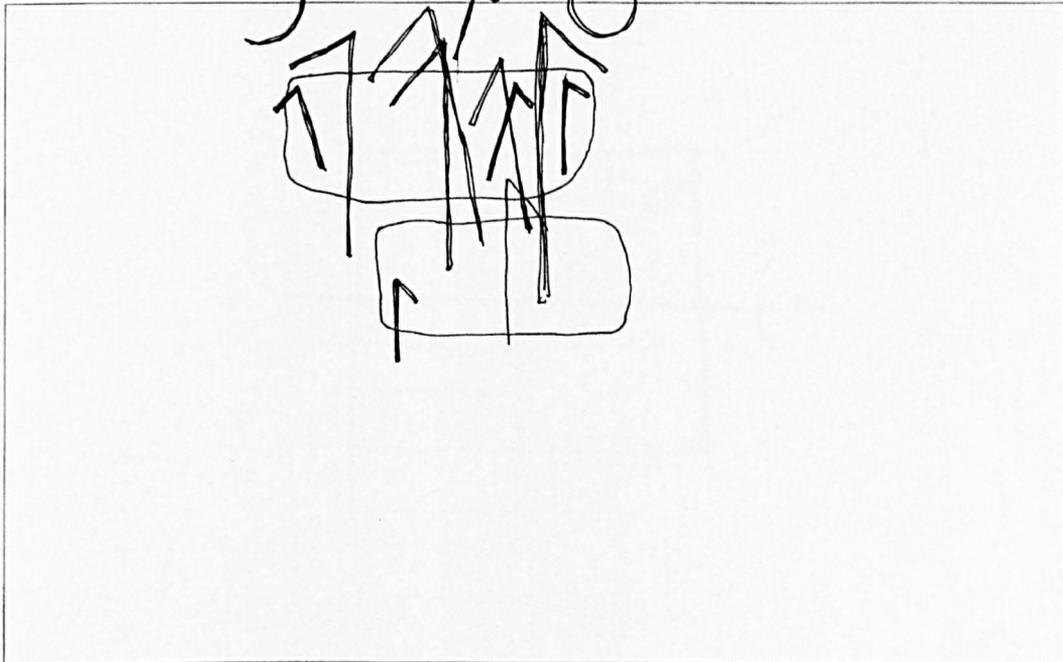


Experiment n° 6

Description n° 1

DIPLOMA YEAR GROUP/Session 04 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

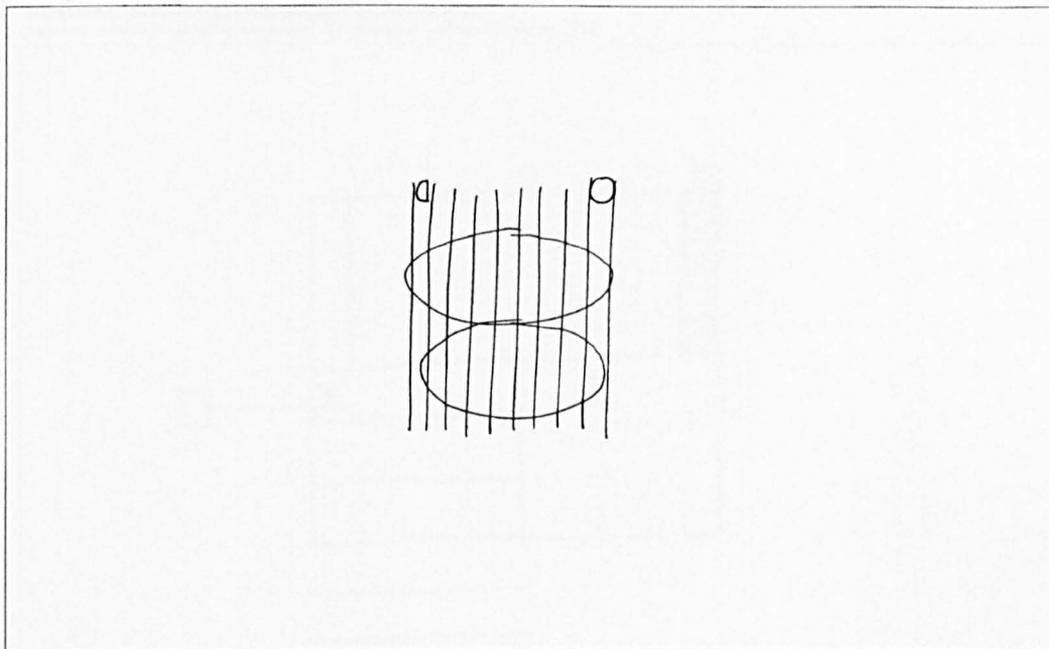


Experiment n° 6

Description n° 2

DIPLOMA YEAR GROUP/Session 05 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

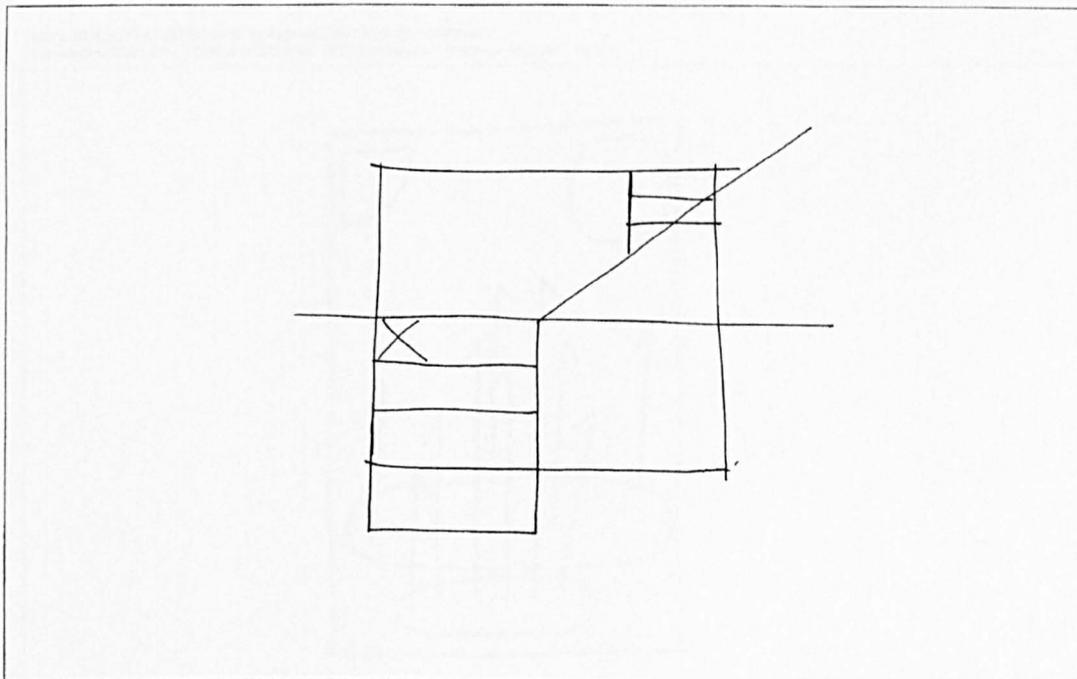


Experiment n° 7

Description n° 1

DIPLOMA YEAR GROUP/Session 05 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

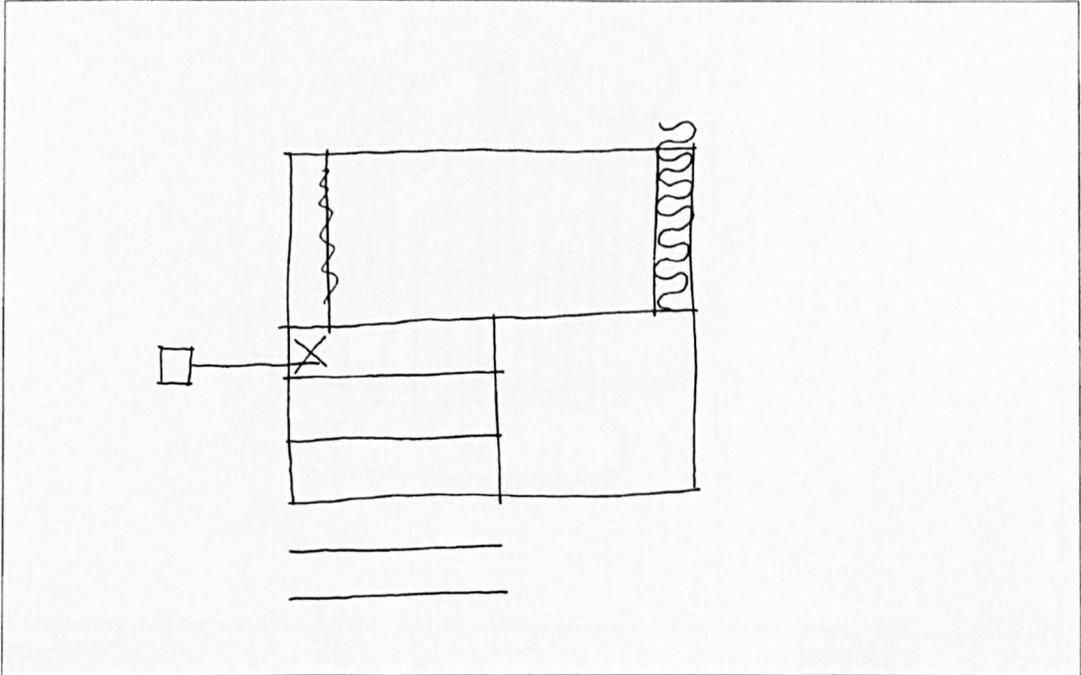


Experiment n° 7

Description n° 2

DIPLOMA YEAR GROUP/Session 06 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

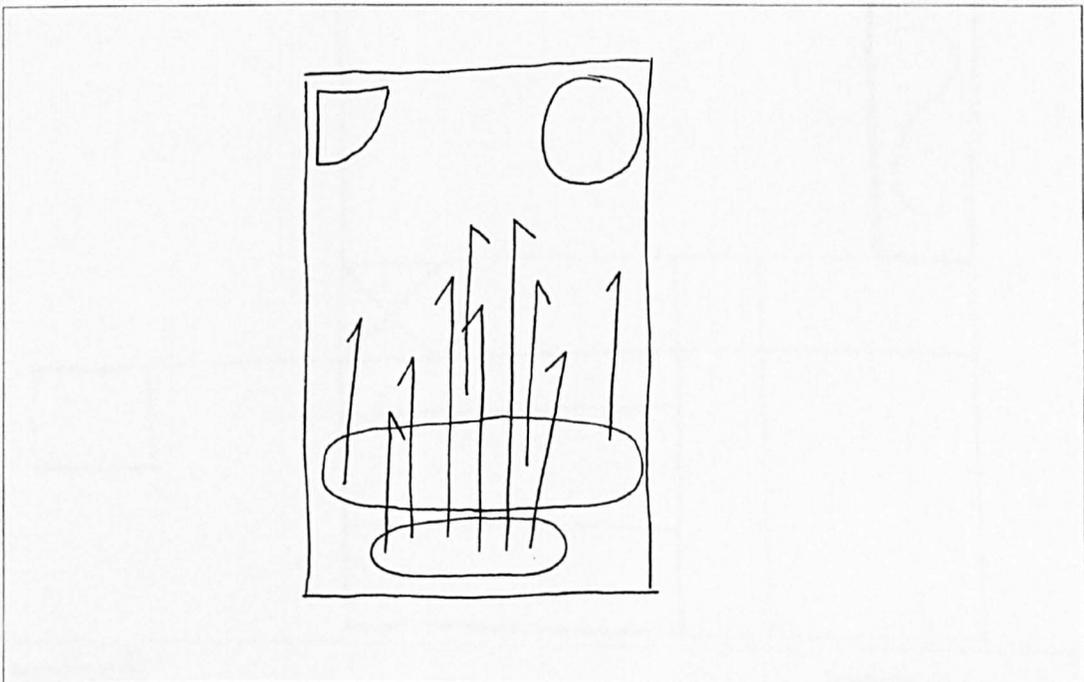


Experiment n° 3

Description n° 1

DIPLOMA YEAR GROUP/Session 06 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

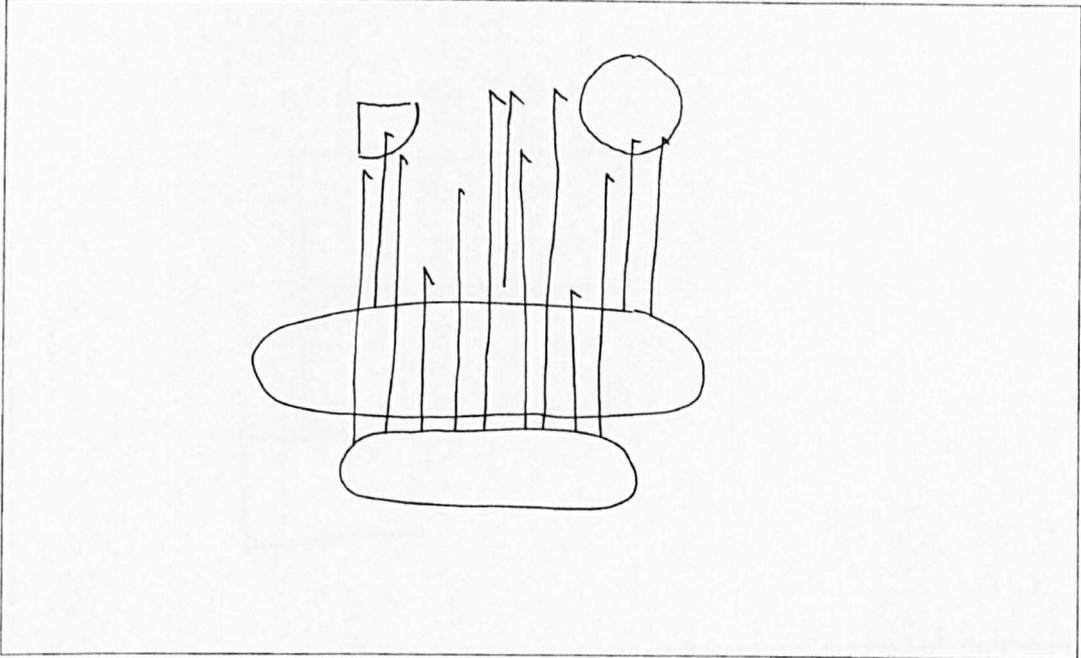


Experiment n° 3

Description n° 2

DIPLOMA YEAR GROUP/Session 07 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

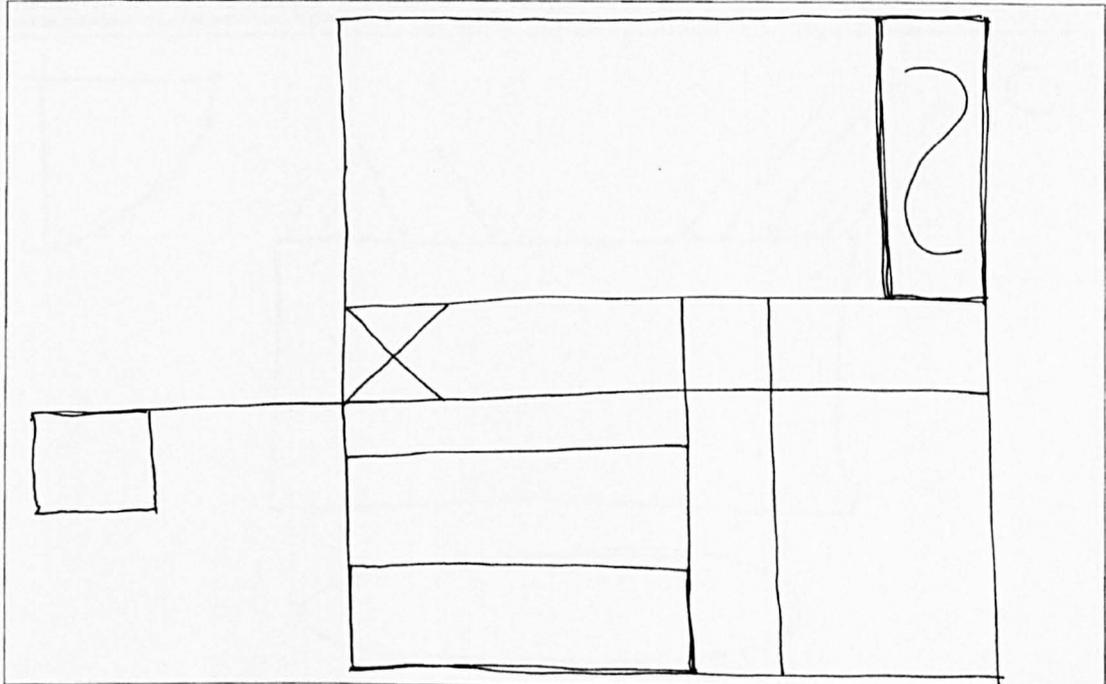


Experiment n° 9

Description n° 1

DIPLOMA YEAR GROUP/Session 07 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

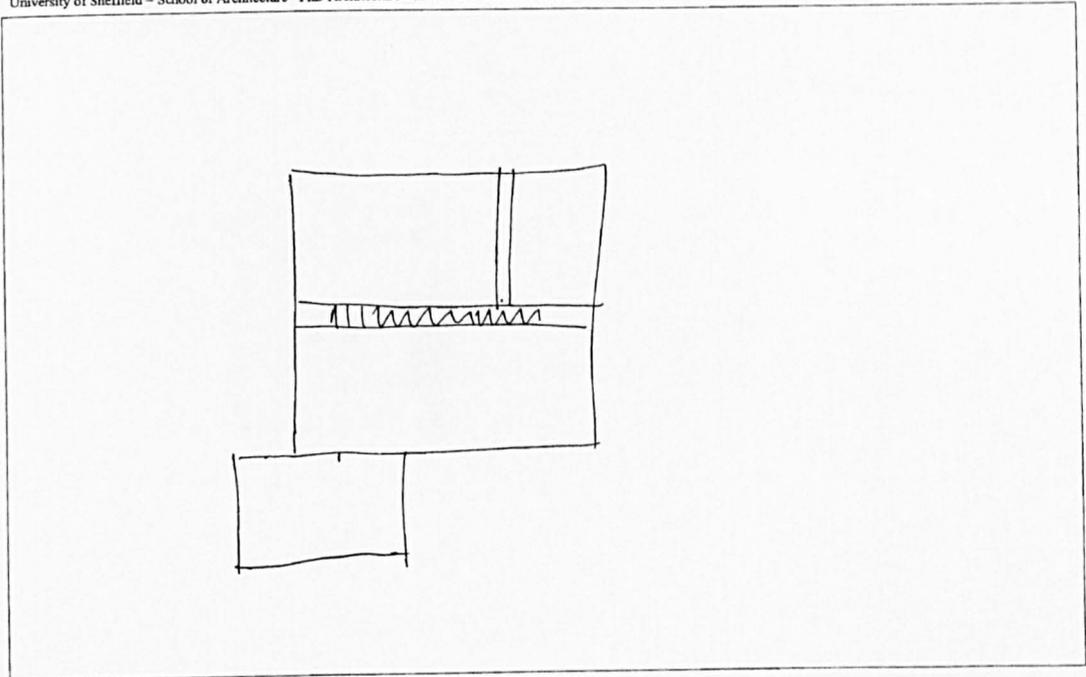


Experiment n° 9

Description n° 2

DIPLOMA YEAR GROUP/Session 08 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

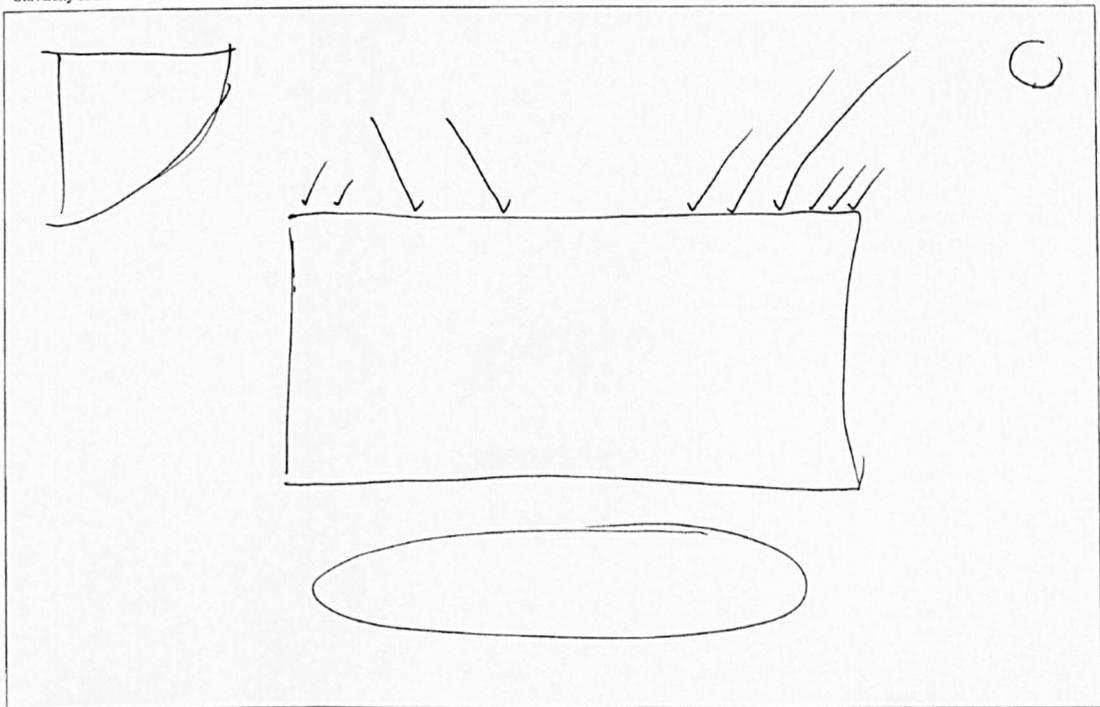


Experiment n° 10

Description n° 1

DIPLOMA YEAR GROUP/Session 08 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

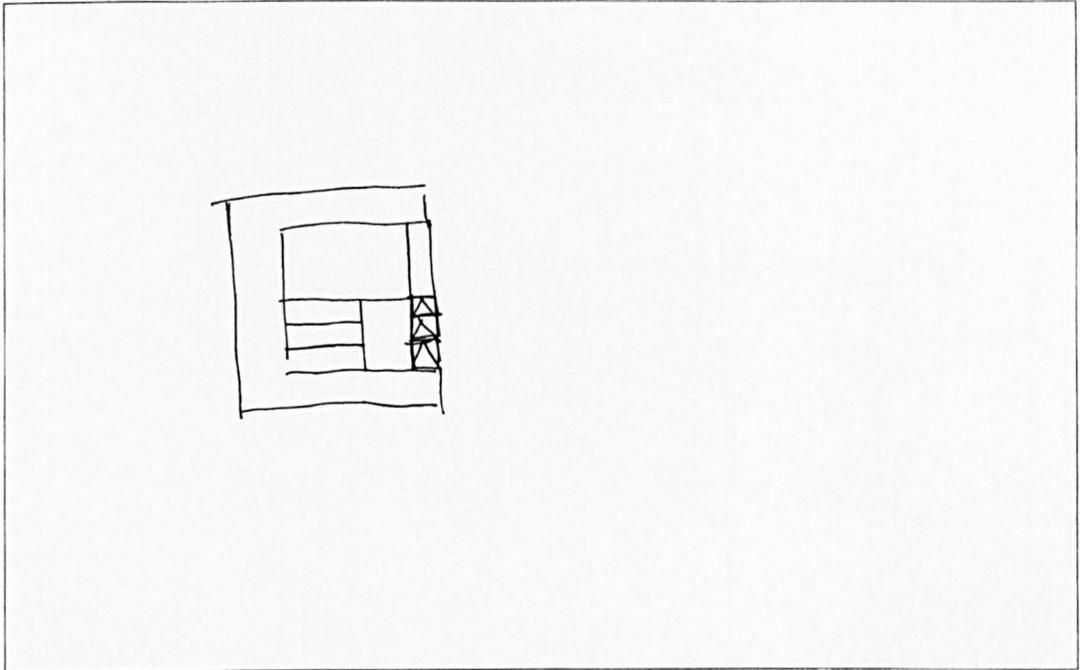


Experiment n° 10

Description n° 2

DIPLOMA YEAR GROUP/Session 09 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

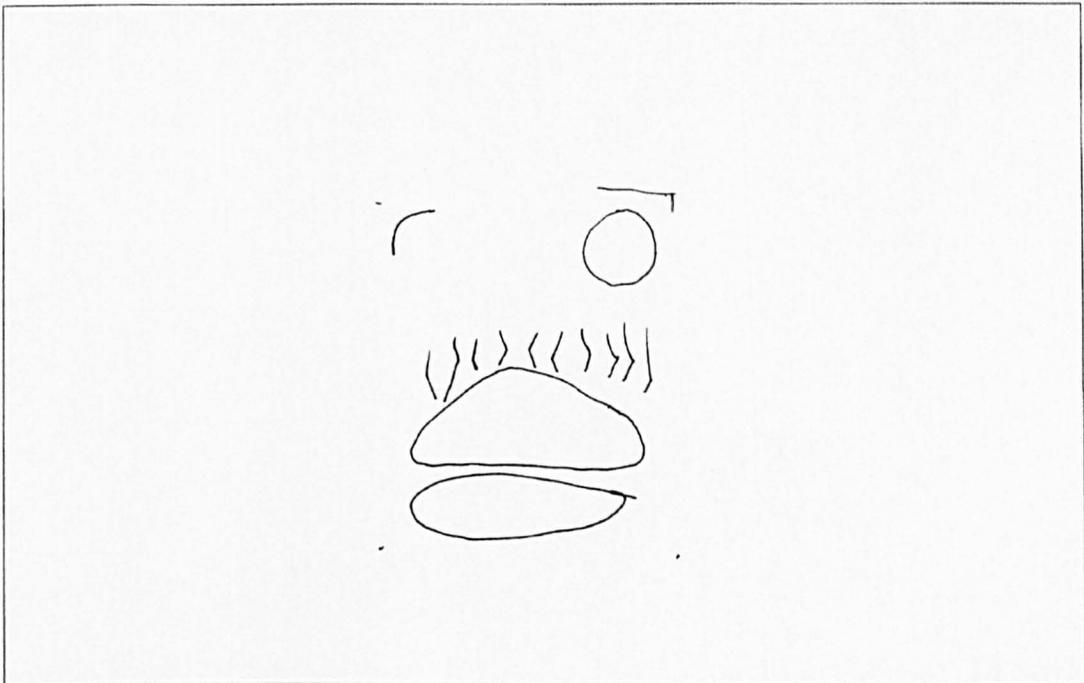


Experiment n° 11

Description n° 1

DIPLOMA YEAR GROUP/Session 09 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

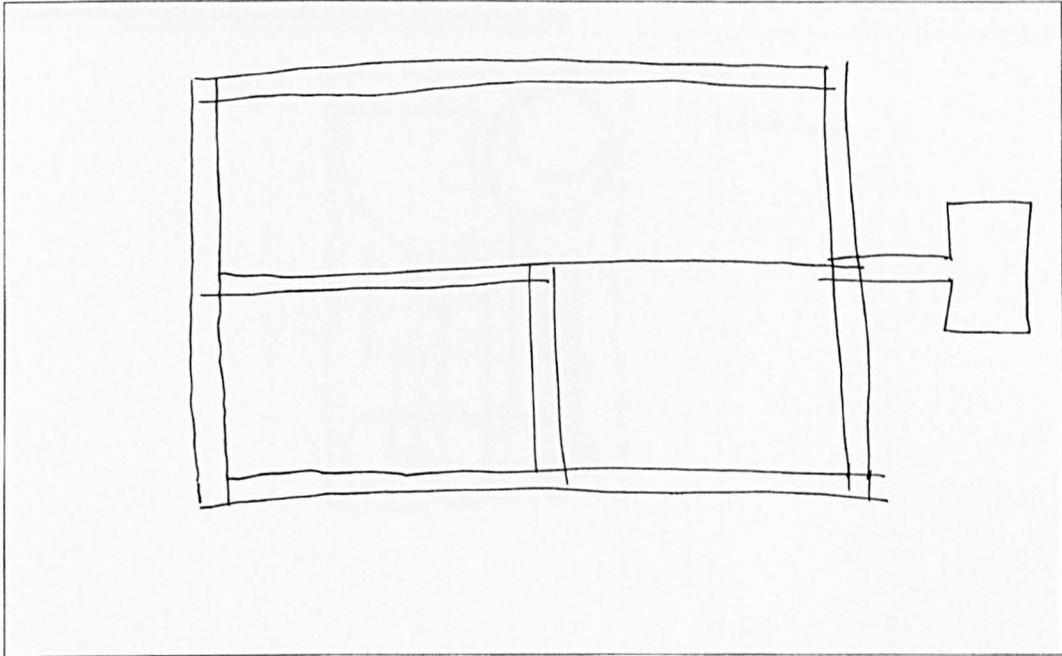


Experiment n° 11

Description n° 2

DIPLOMA YEAR GROUP/Session 10 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

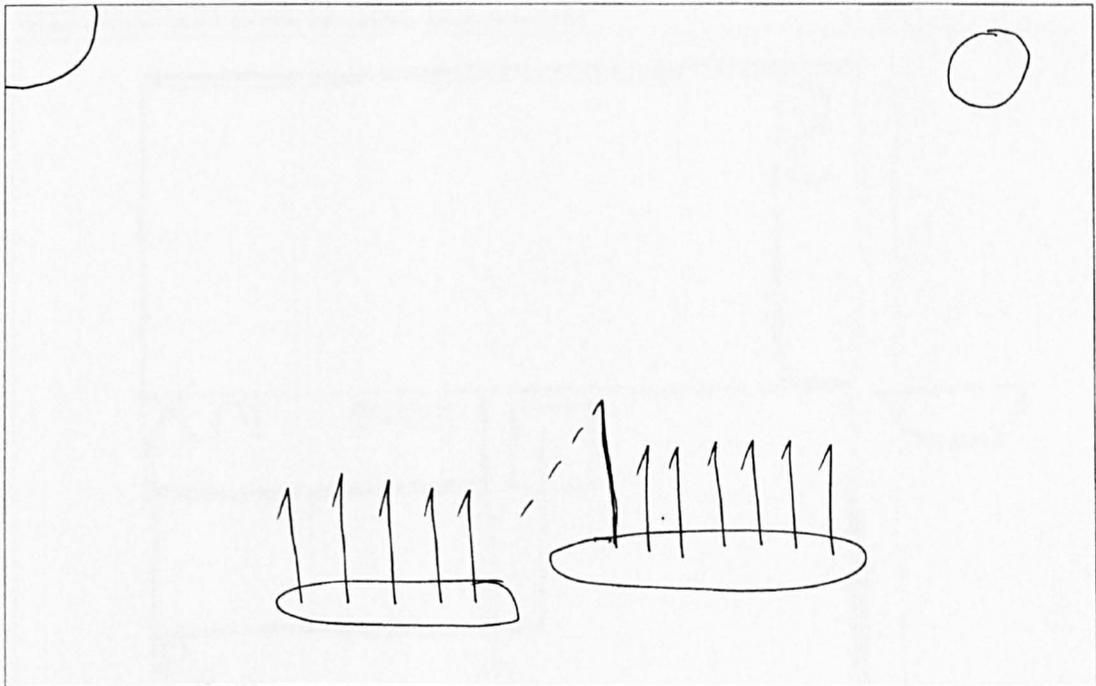


Experiment n° 15

Description n° |

DIPLOMA YEAR GROUP/Session 10 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

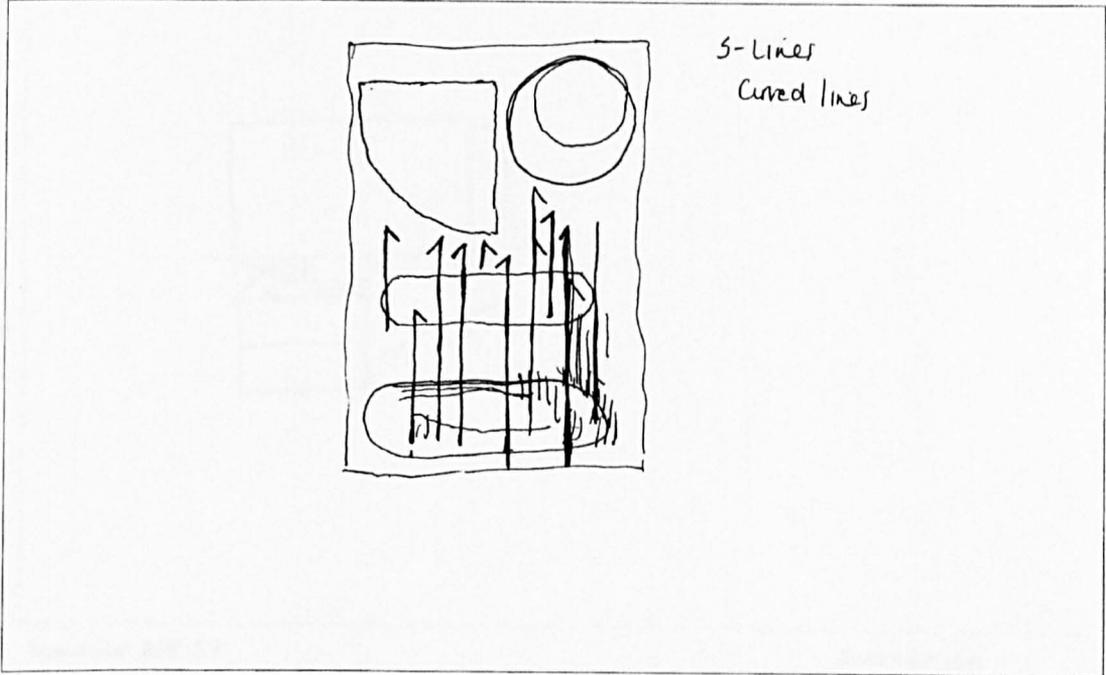


Experiment n° 15

Description n° 2

DIPLOMA YEAR GROUP/Session 11 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

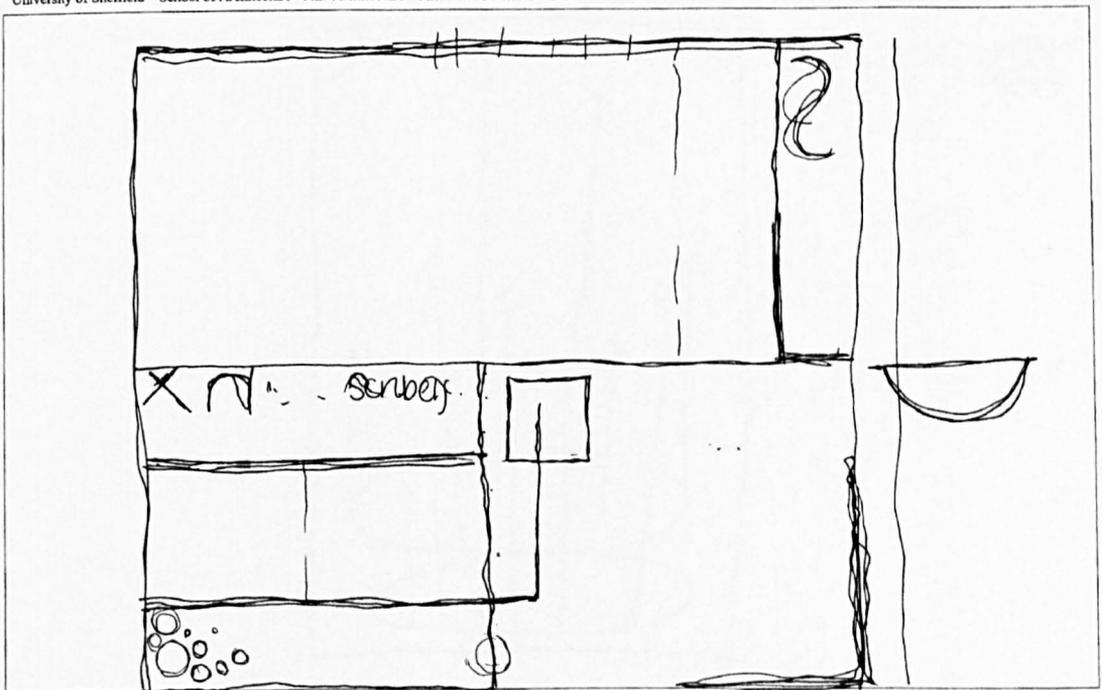


Experiment n° 26

Description n° ONE

DIPLOMA YEAR GROUP/Session 11 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

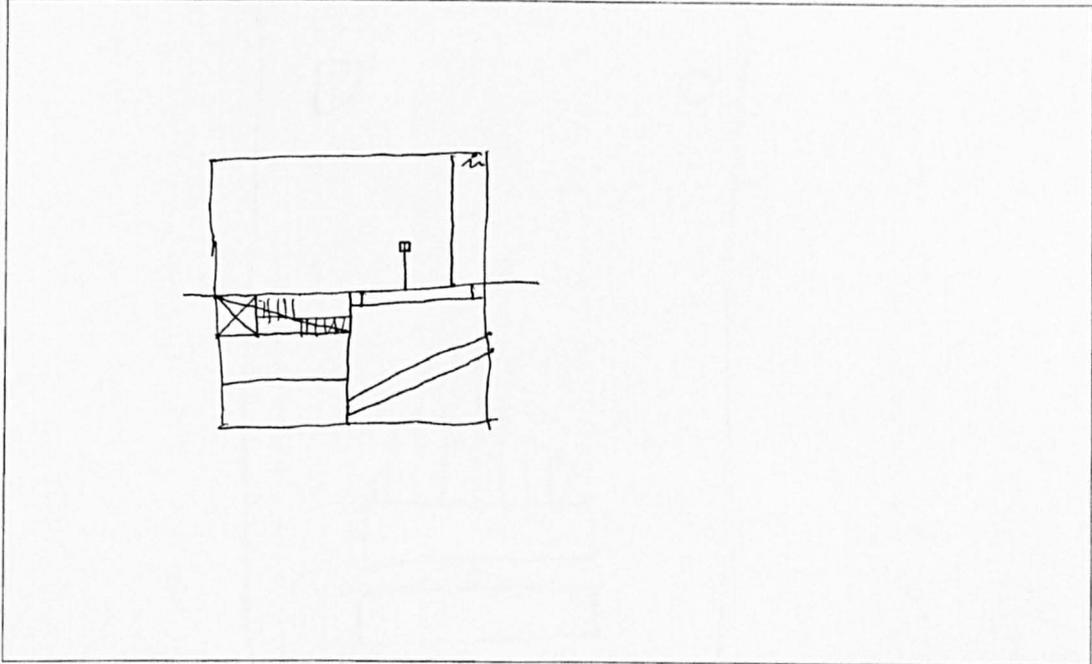


Experiment n° 26

Description n° TWO.

DIPLOMA YEAR GROUP/Session 12 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

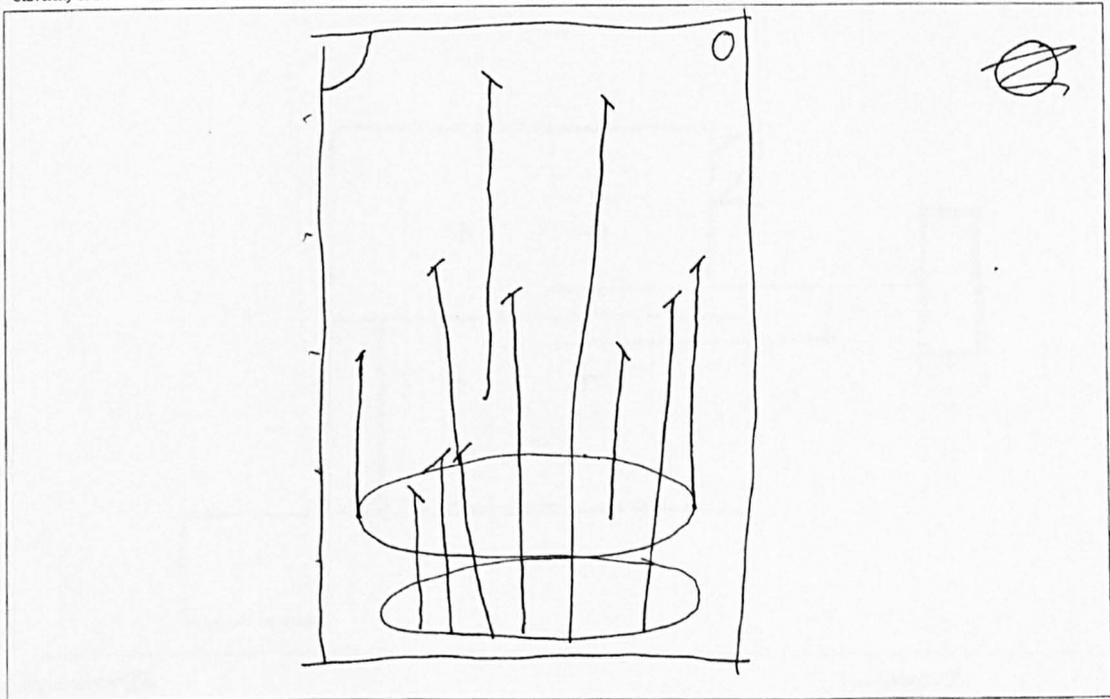


Experiment n° *0001 27*

Description n° *0105*

DIPLOMA YEAR GROUP/Session 12 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

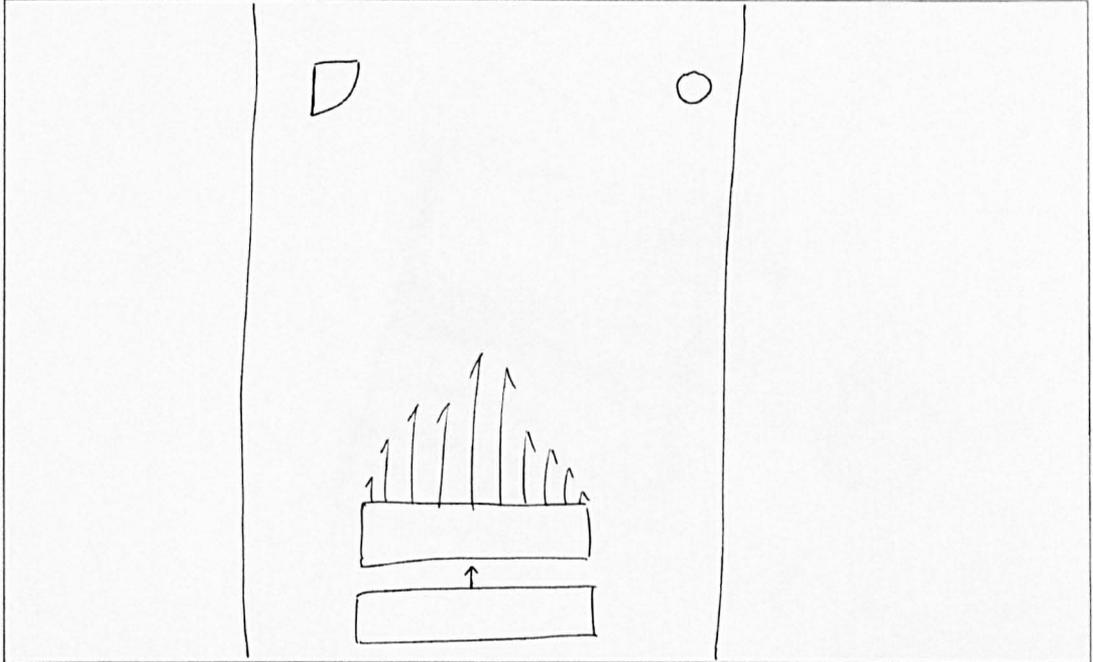


Experiment n° *27*

Description n° *2*

DIPLOMA YEAR GROUP/Session 13 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

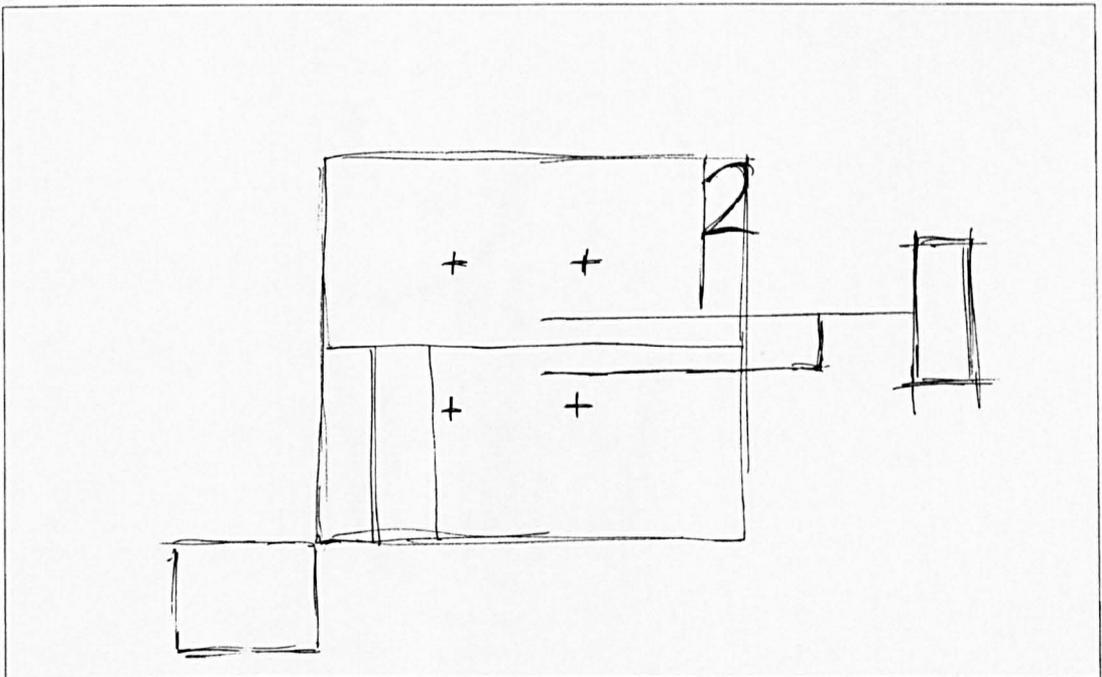


Experiment n° 28

Description n° /

DIPLOMA YEAR GROUP/Session 13 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

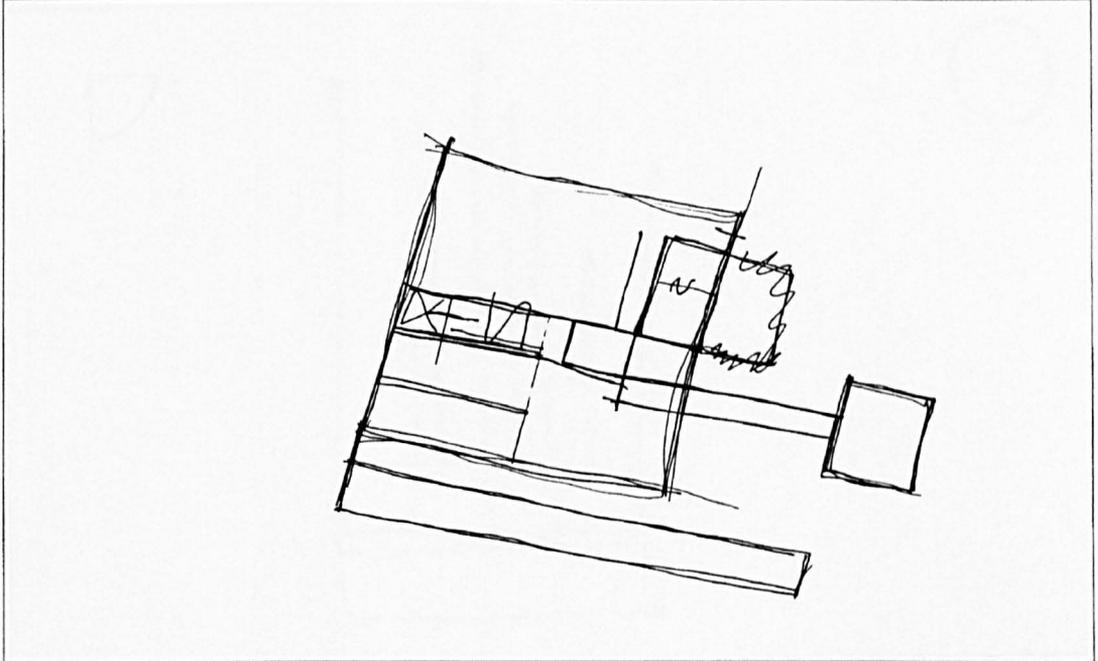


Experiment n° 28

Description n° 2

DIPLOMA YEAR GROUP/Session 14 - Description 1: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

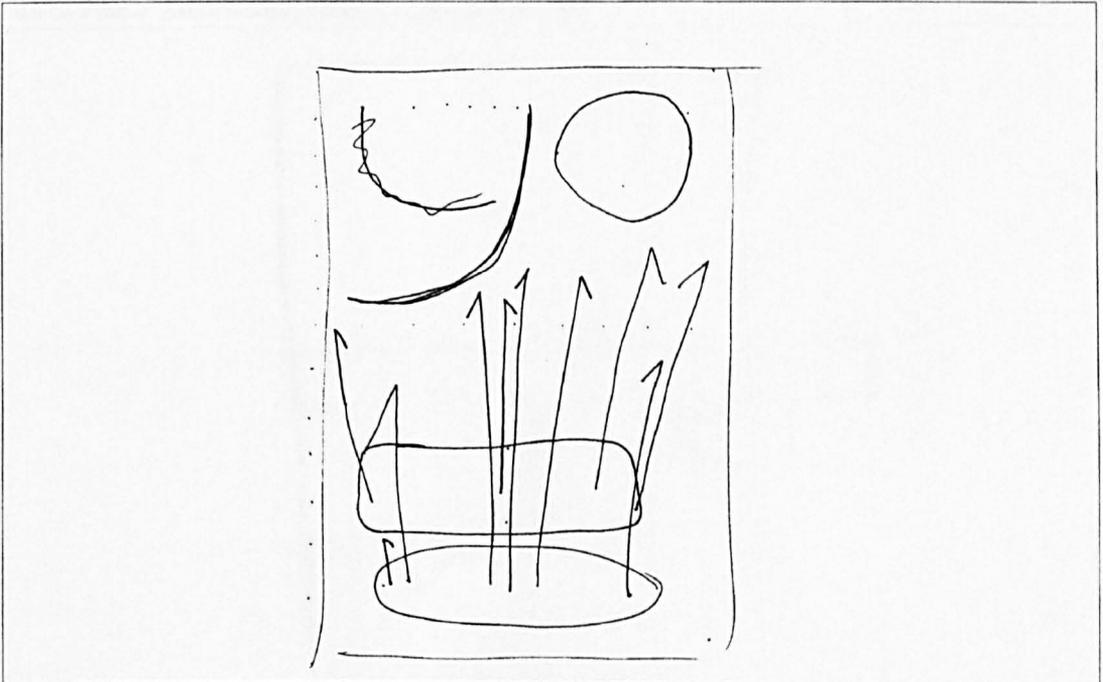


Experiment n° 29

Description n° 01

DIPLOMA YEAR GROUP/Session 14 - Description 2: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

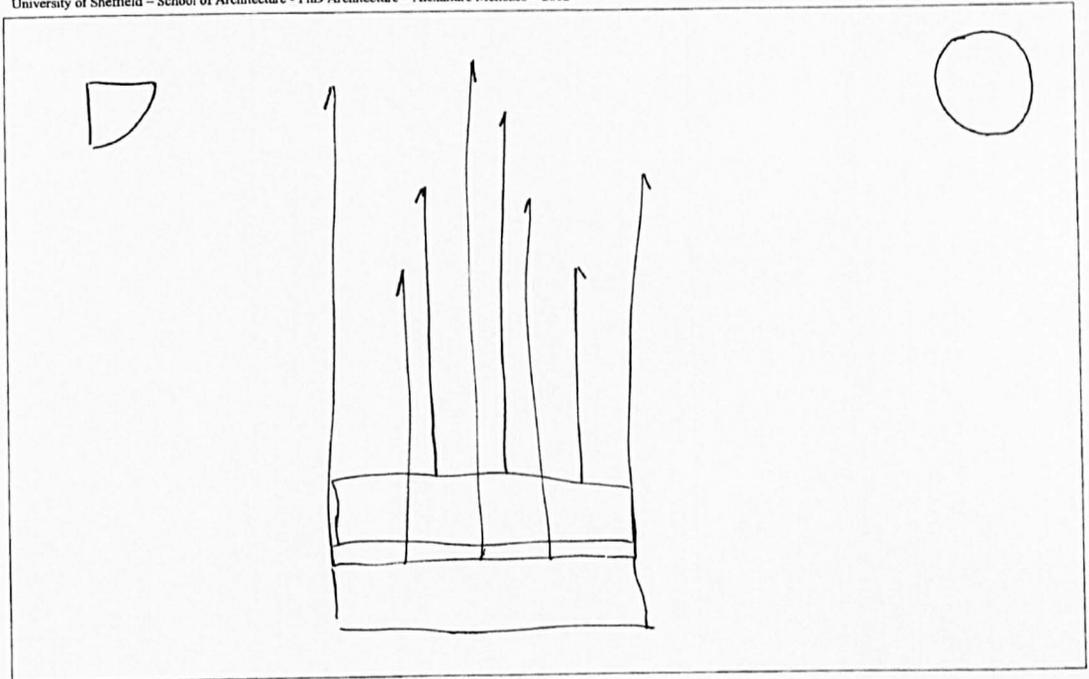


Experiment n° 29

Description n° 02

DIPLOMA YEAR GROUP/Session 15 - Description 1: Non-Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

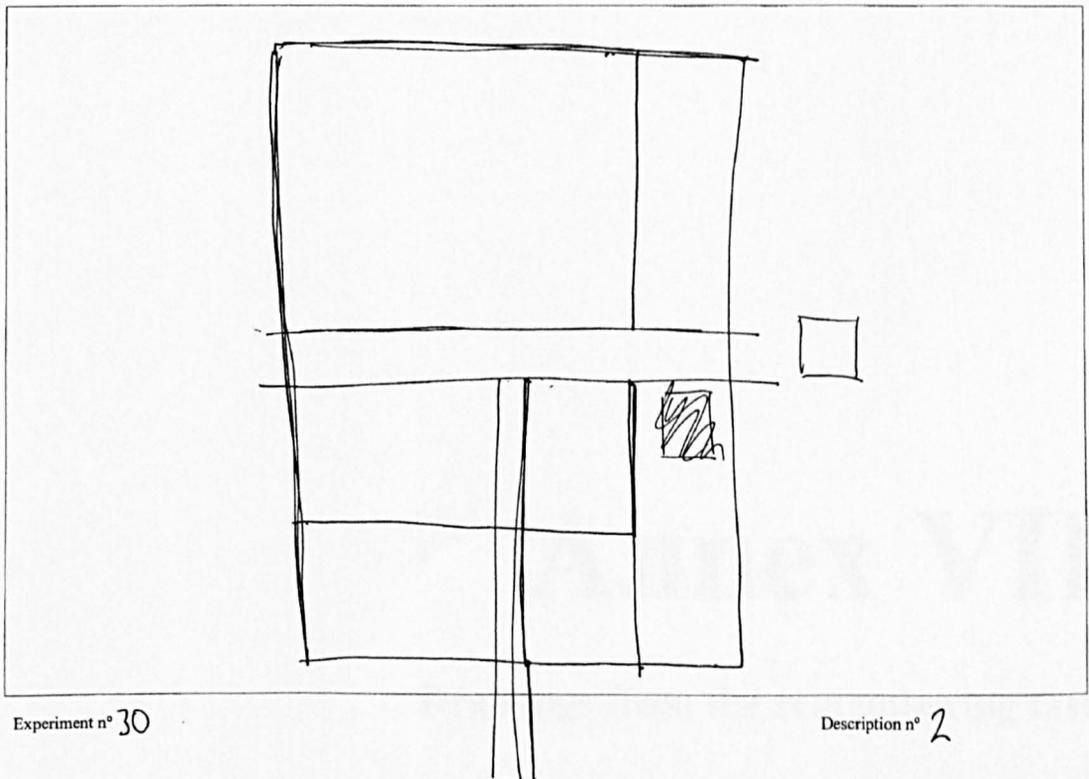


Experiment n° 30

Description n° 1

DIPLOMA YEAR GROUP/Session 15 - Description 2: Architectural sketch

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 30

Description n° 2

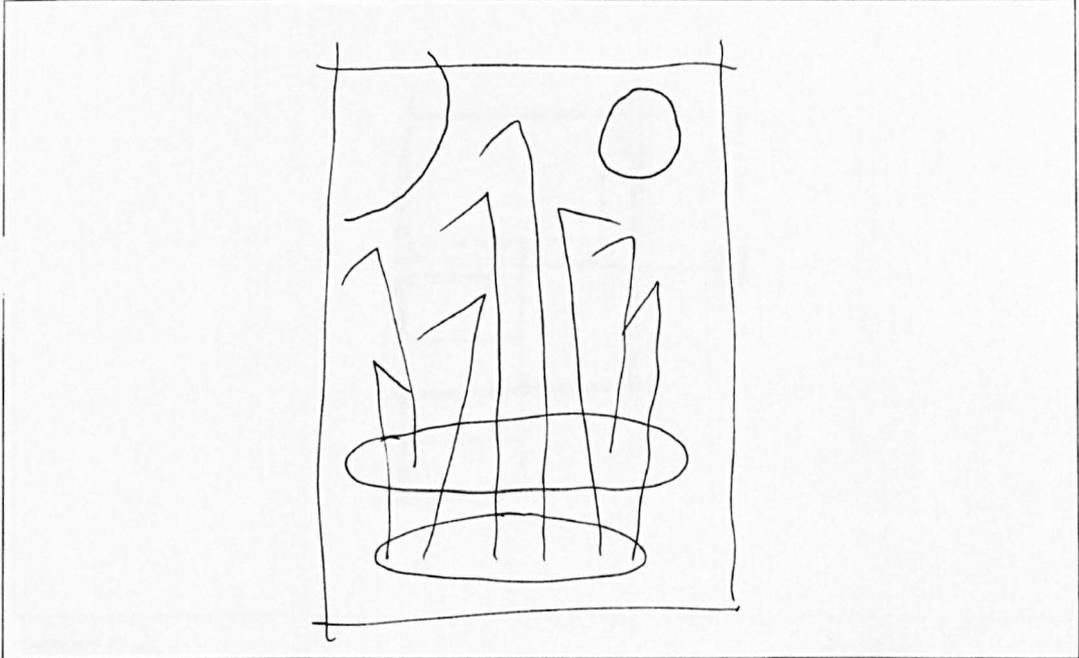
Annex VII

Drawings from the remembering task

1 - FIRST YEAR GROUP – Drawings from Remembering Task

FIRST YEAR GROUP/Session 01 – Remembering task

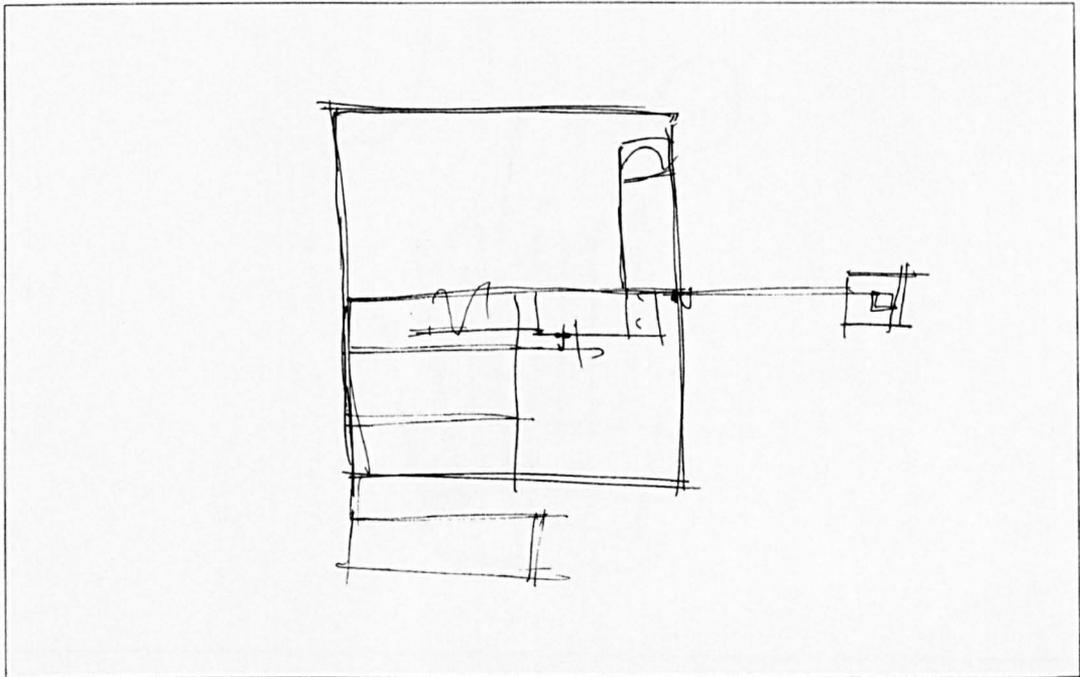
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 01

Description n° 01

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

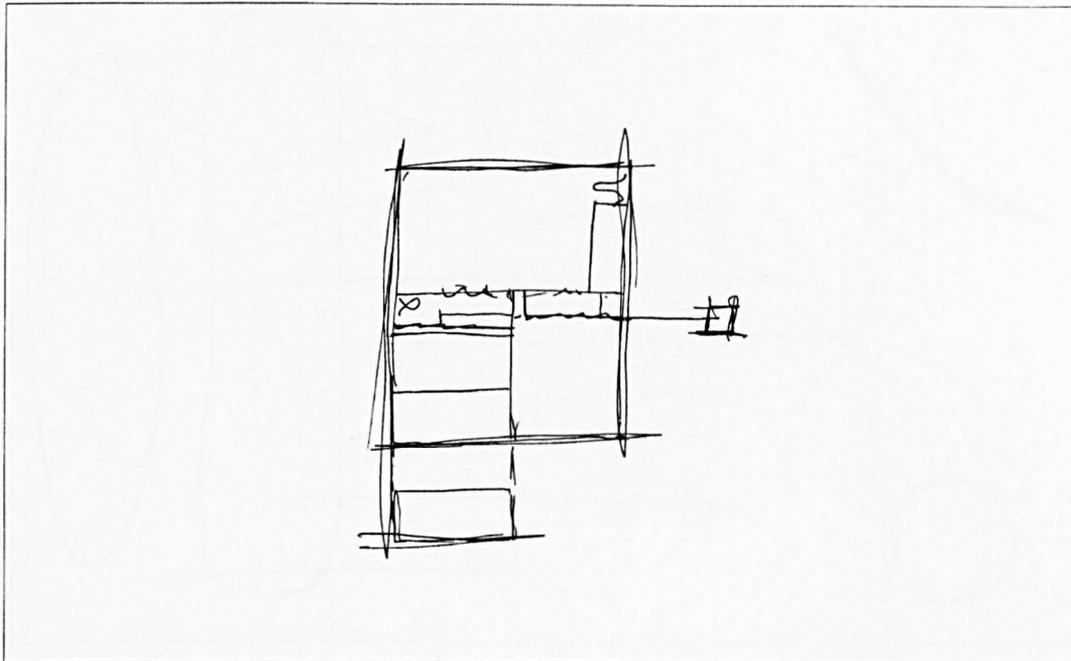


Experiment n° 01

Description n° 02

FIRST YEAR GROUP/Session 02 – Remembering task

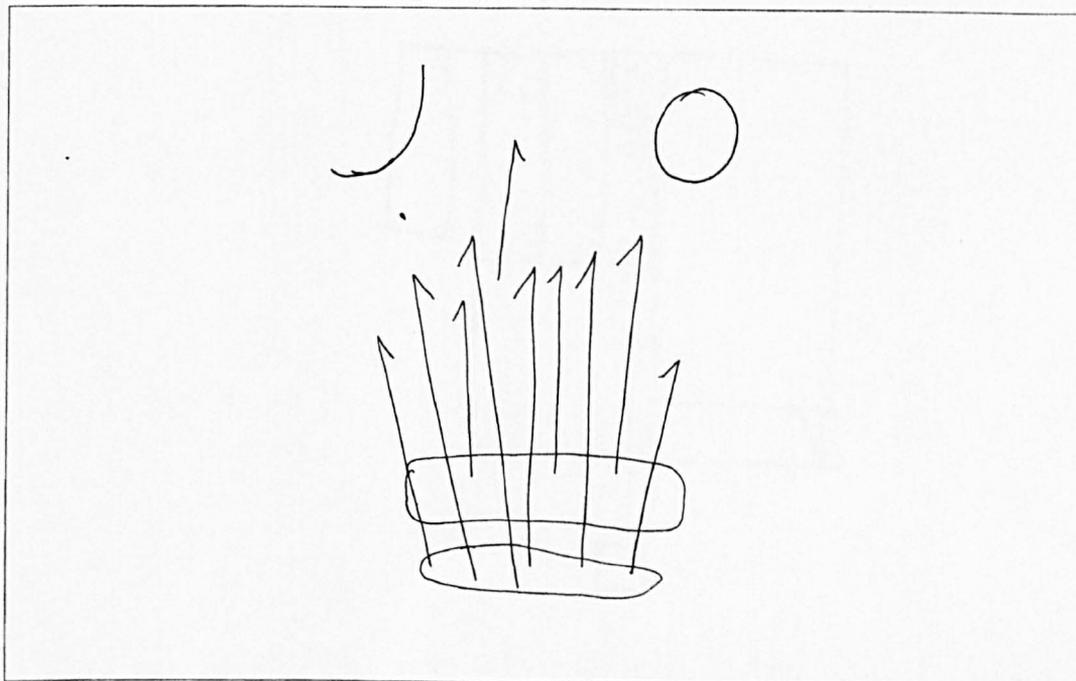
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 2

Description n° /

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

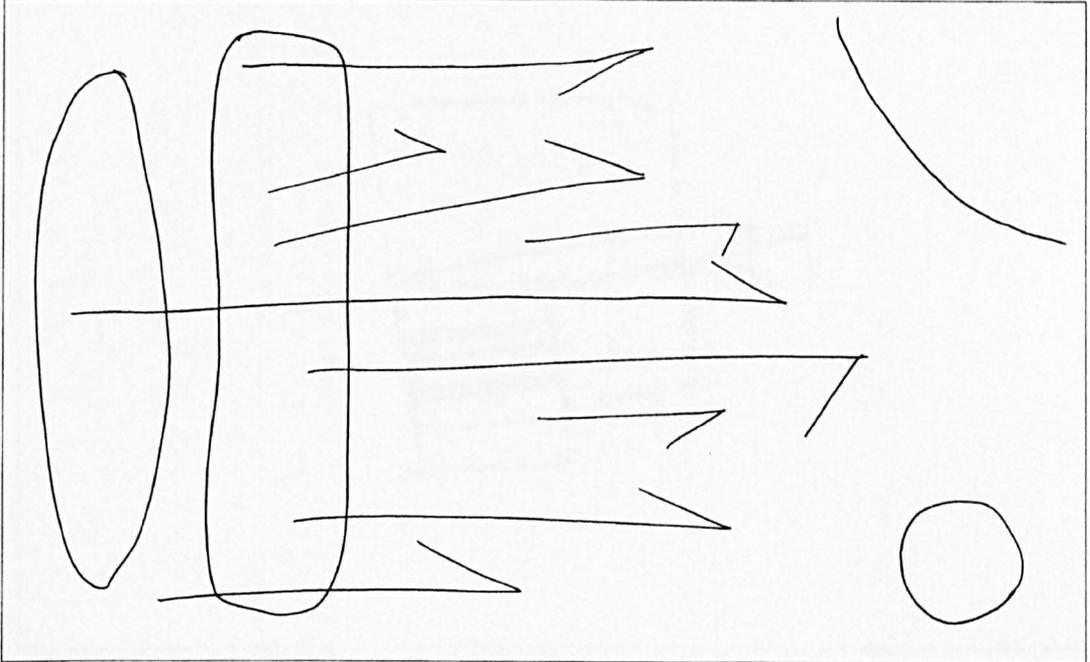


Experiment n° 2

Description n° 2

FIRST YEAR GROUP/Session 03 – Remembering task

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n°

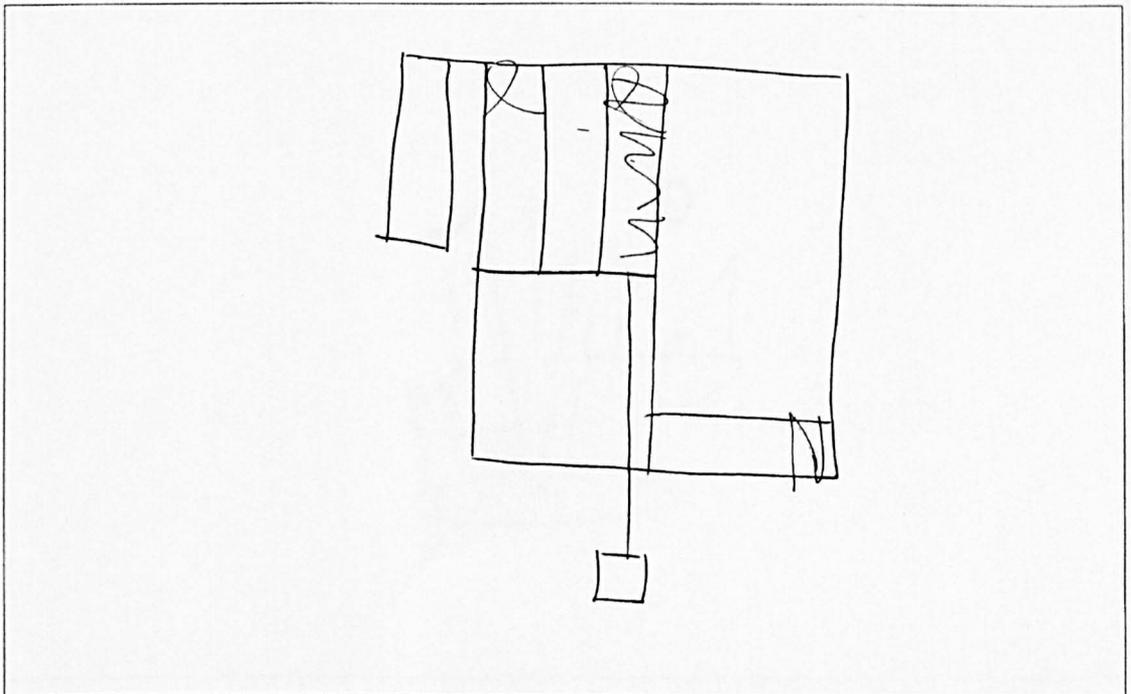
12

Memory

Description n°

1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n°

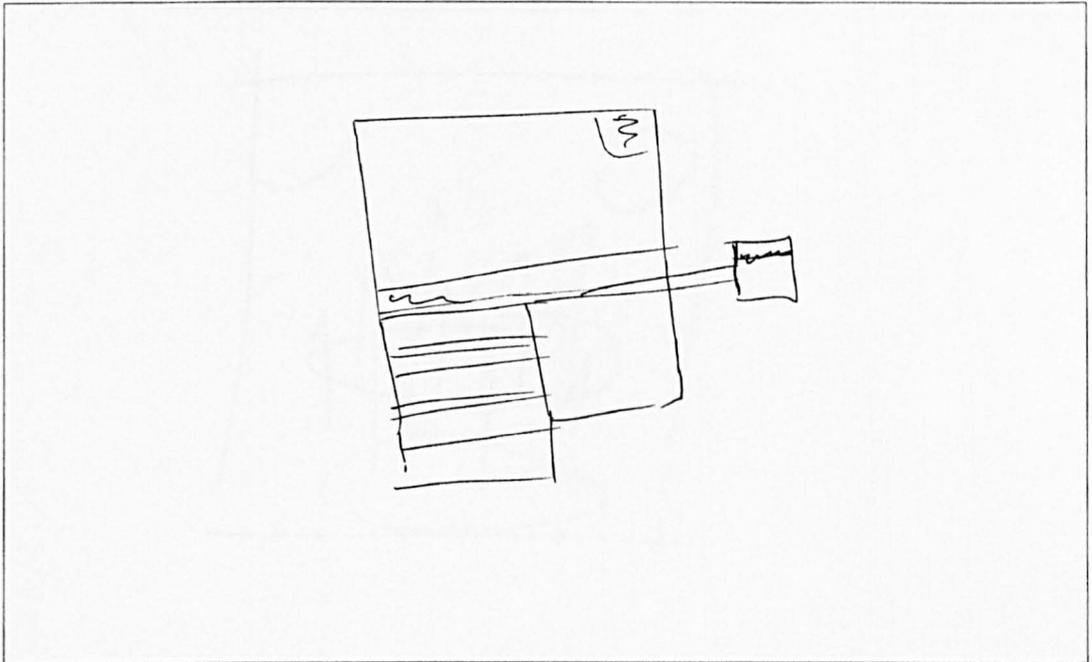
12

Description n°

2

FIRST YEAR GROUP/Session 04 – Remembering task

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



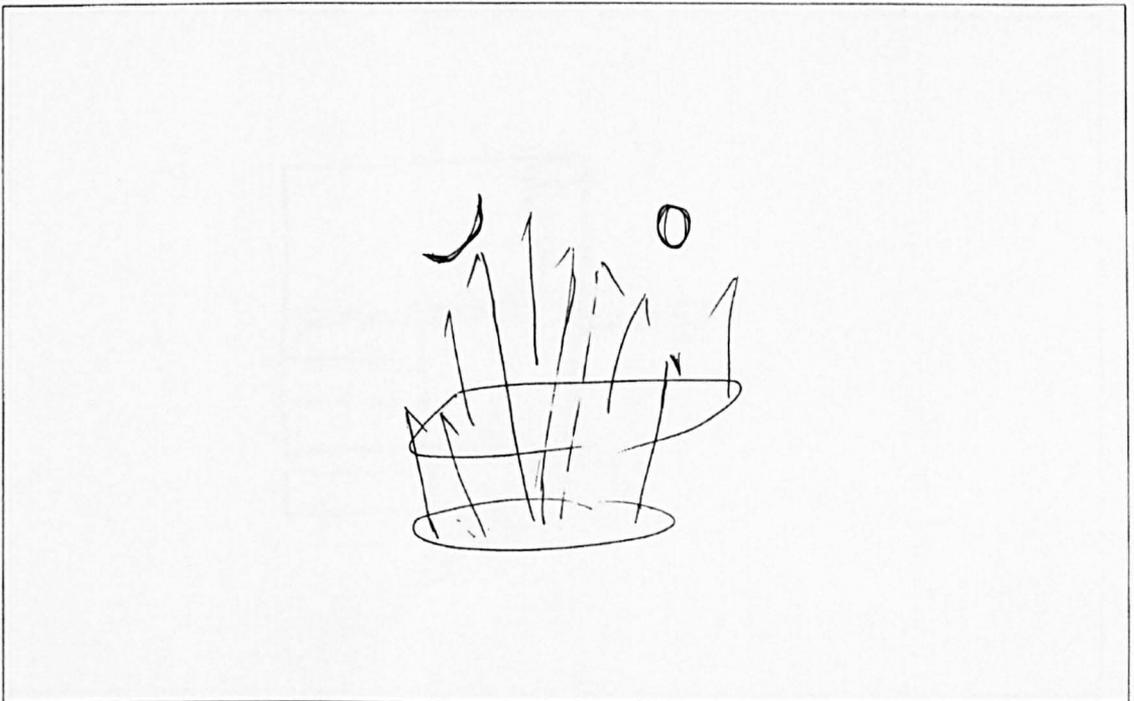
Experiment n°

13

Description n°

1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n°

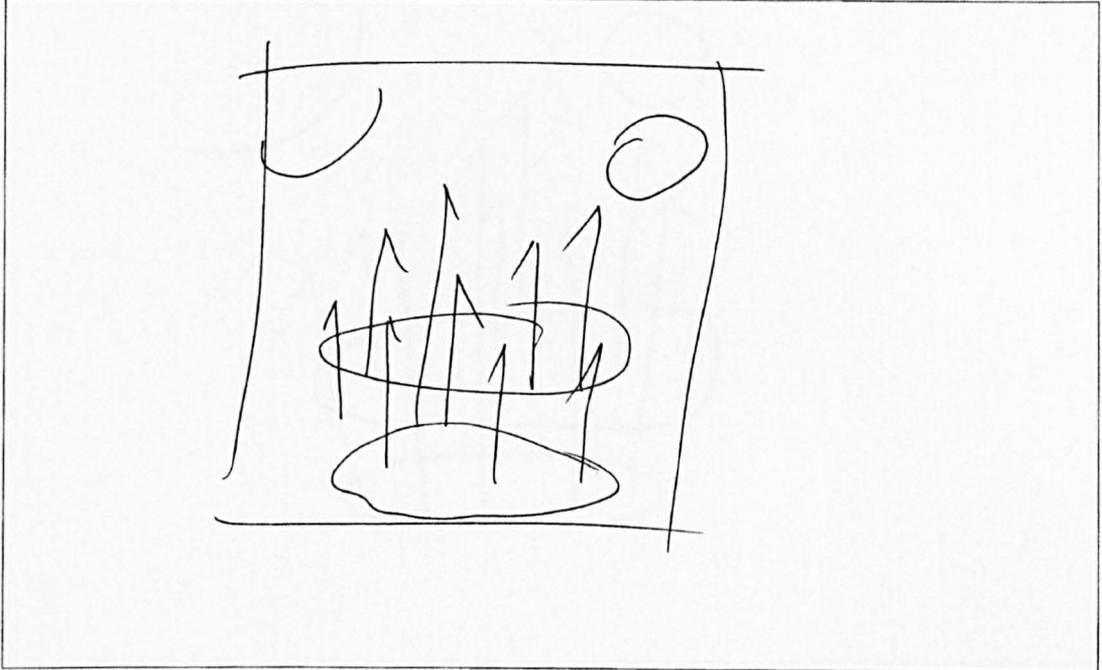
13

Description n°

2

FIRST YEAR GROUP/Session 05 – Remembering task

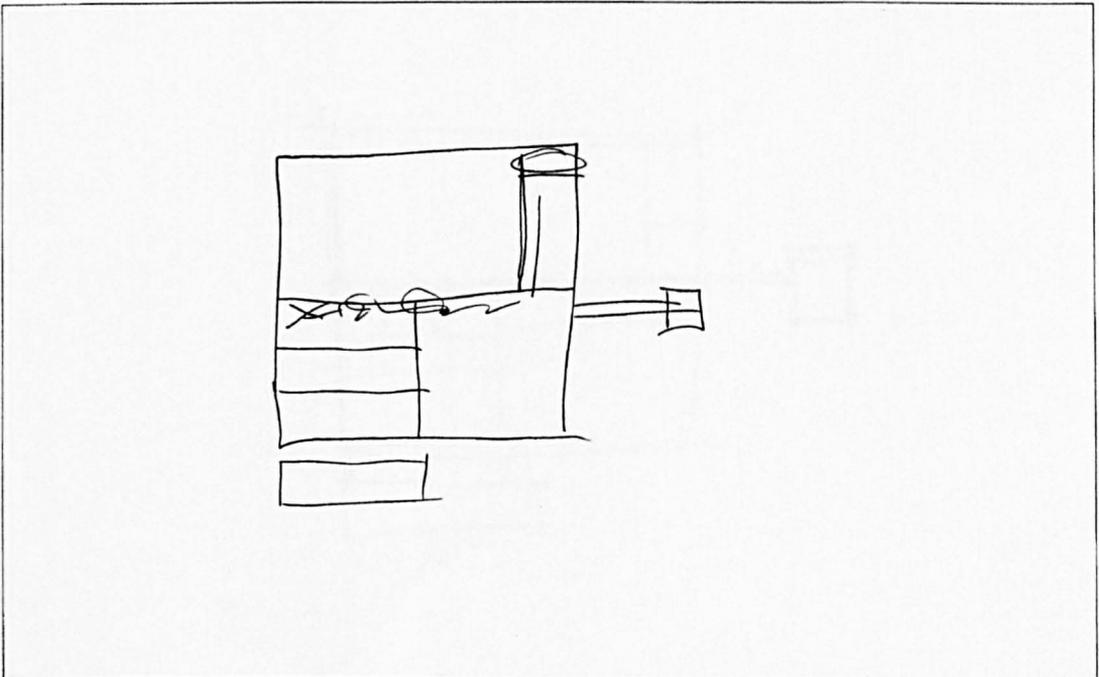
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 14

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

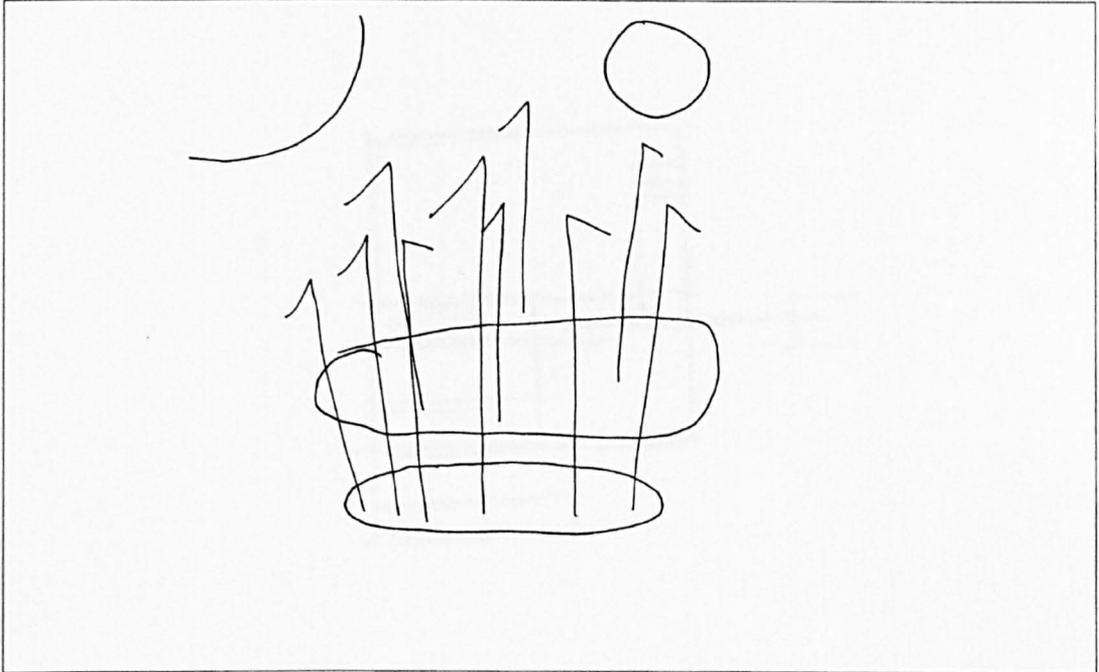


Experiment n° 14

Description n° 2

FIRST YEAR GROUP/Session 06 – Remembering task

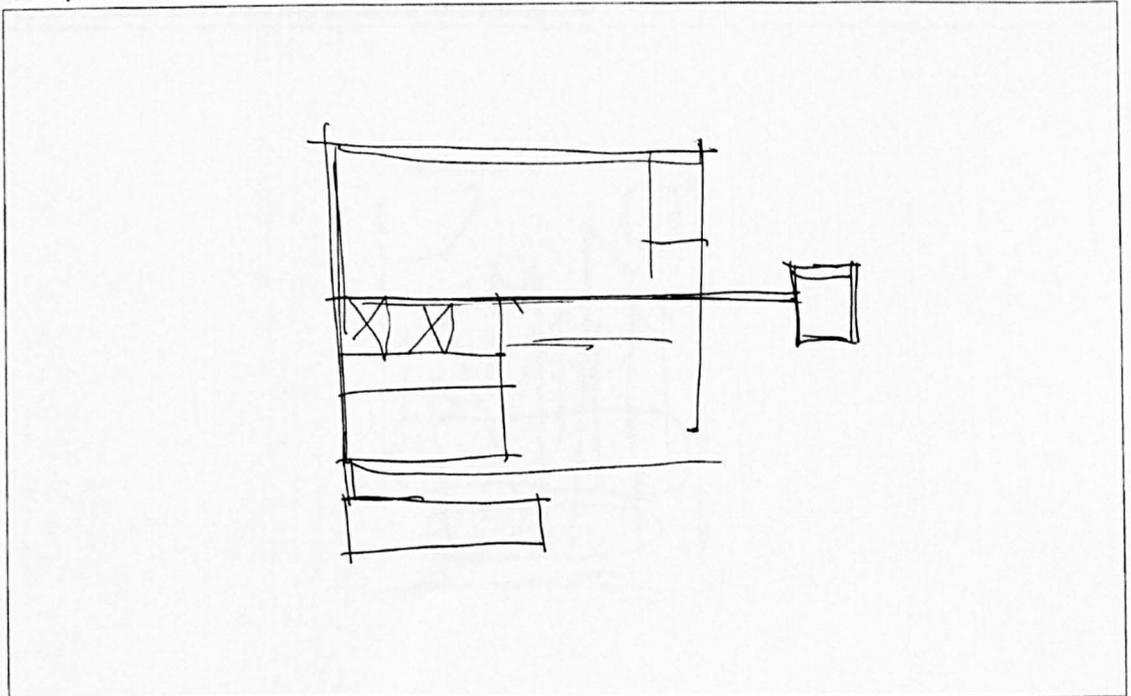
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 16

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

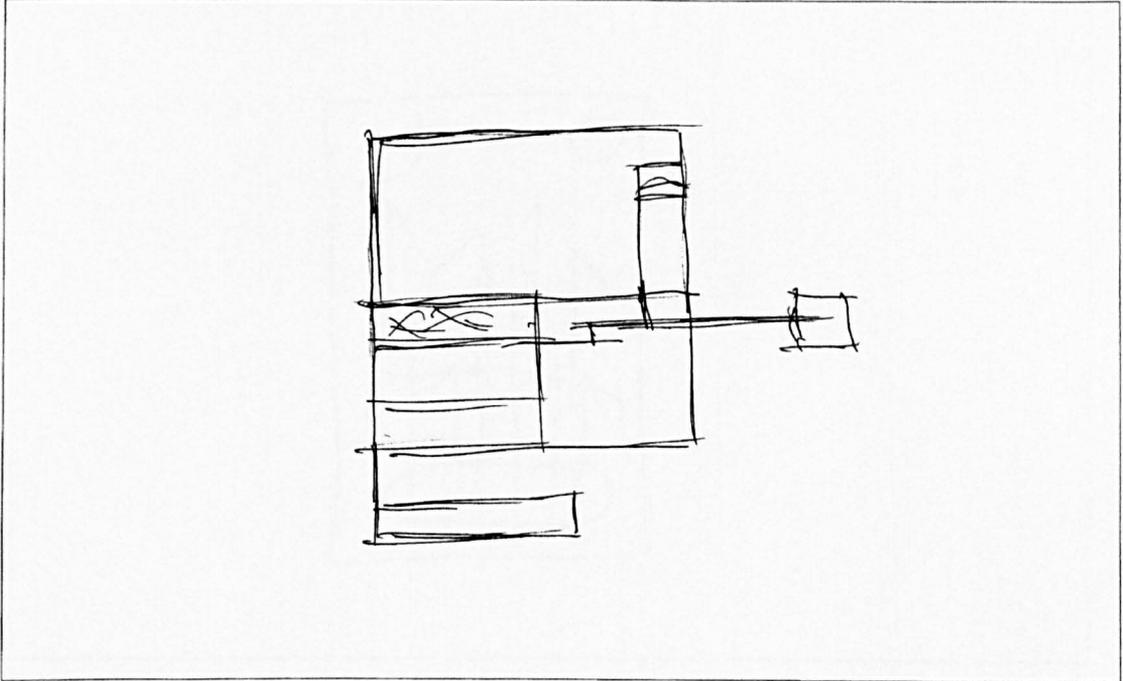


Experiment n° 16

Description n° 2

FIRST YEAR GROUP/Session 07 – Remembering task

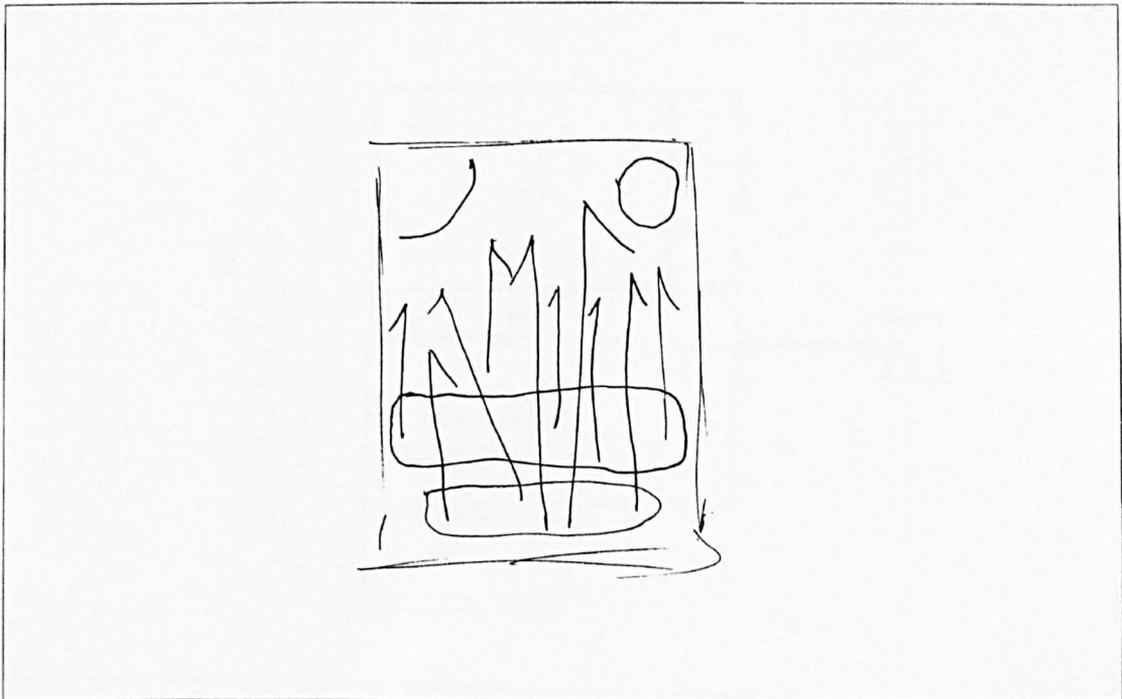
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 17

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



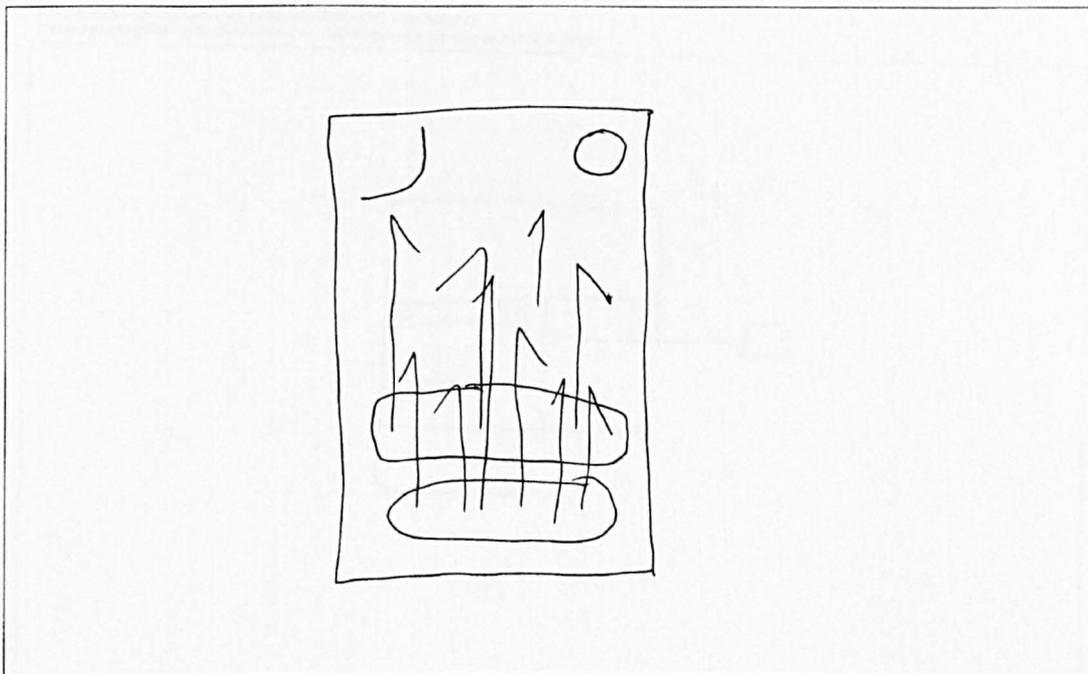
Experiment n° 17

Description n° 2

11.11.01

FIRST YEAR GROUP/Session 08 – Remembering task

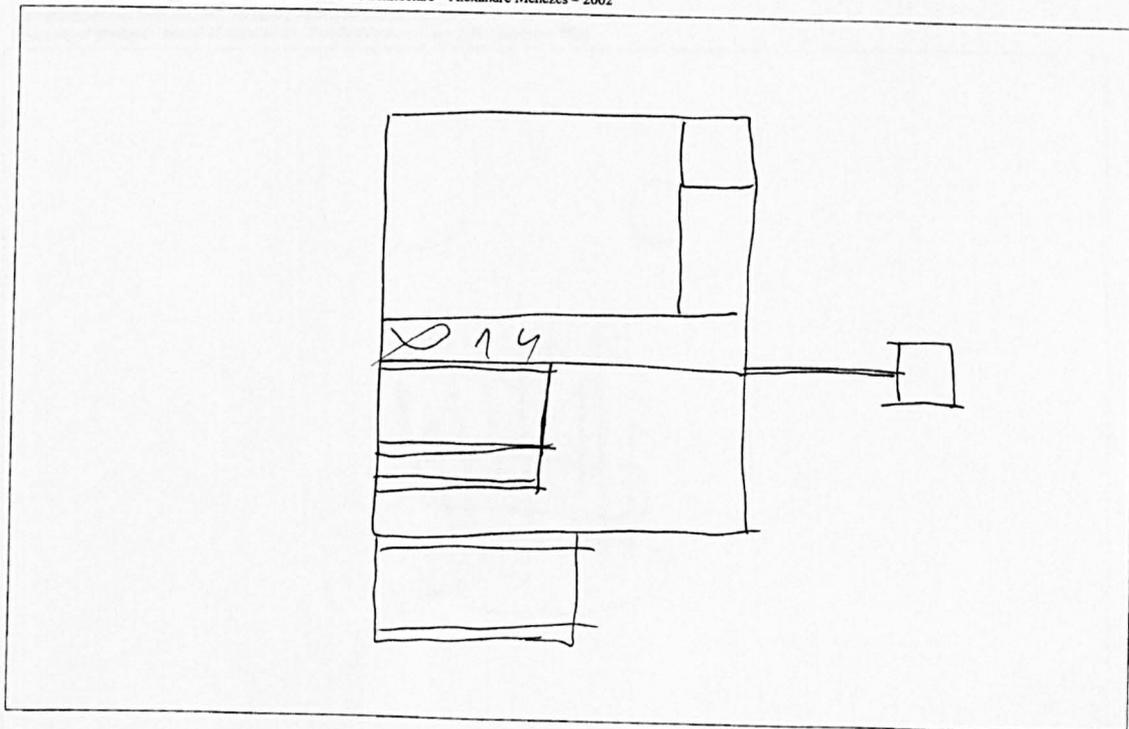
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 18

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

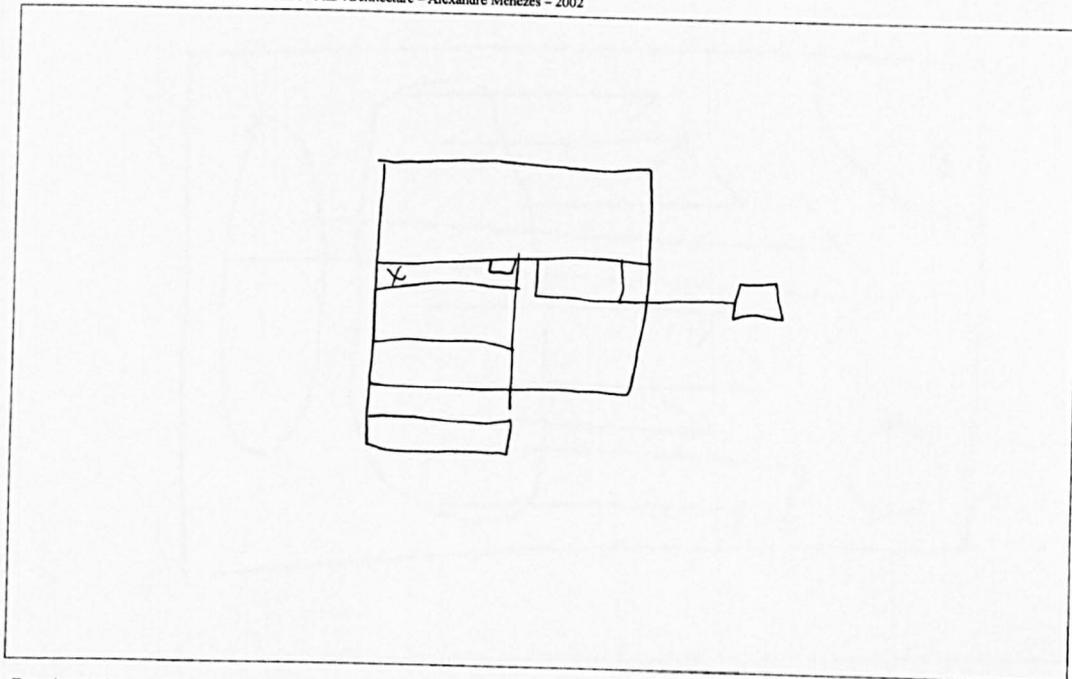


Experiment n° 18

Description n° 2

FIRST YEAR GROUP/Session 09 – Remembering task

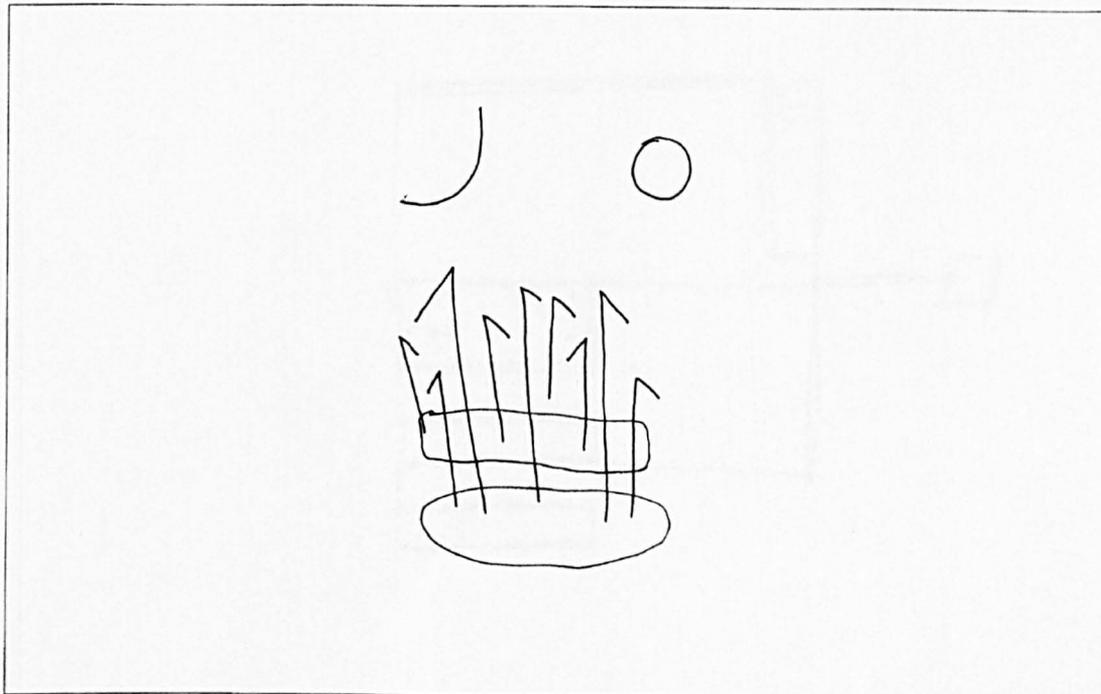
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 19

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

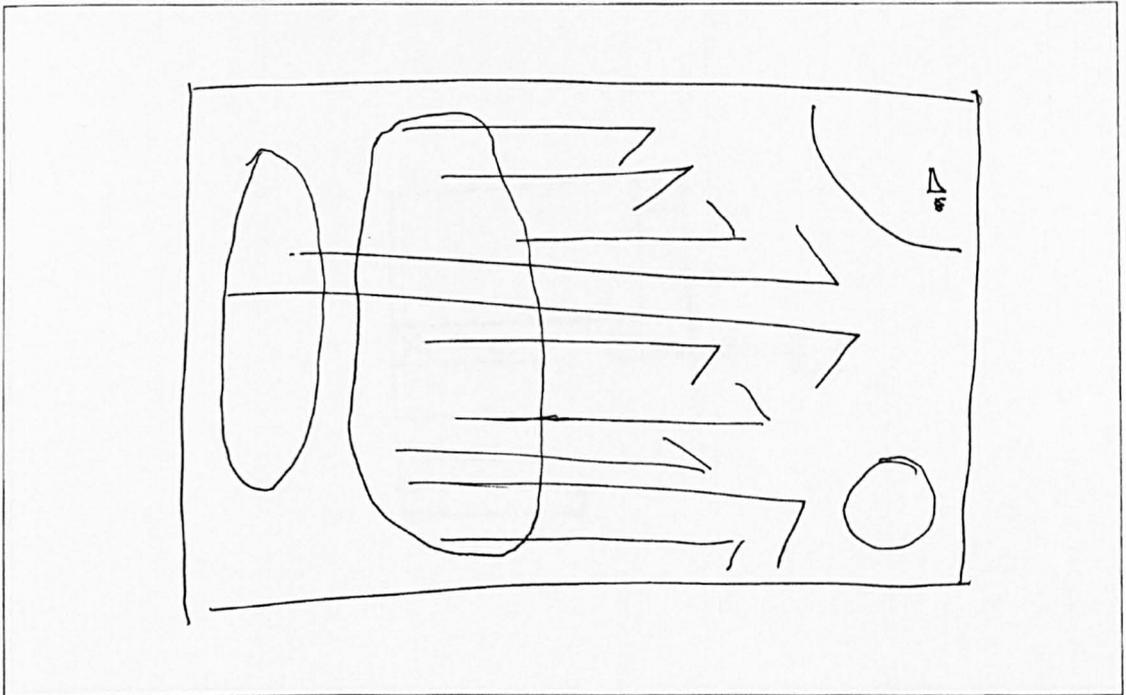


Experiment n° 19

Description n° 2

FIRST YEAR GROUP/Session 10 – Remembering task

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



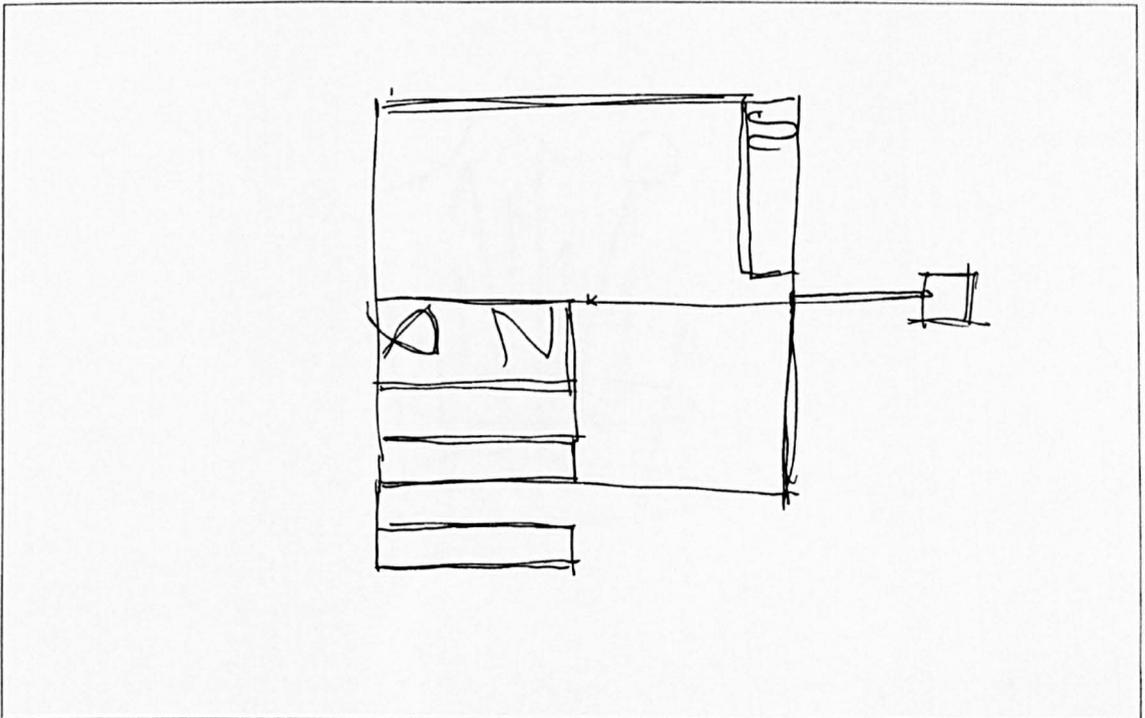
Experiment n°

20

Description n°

1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n°

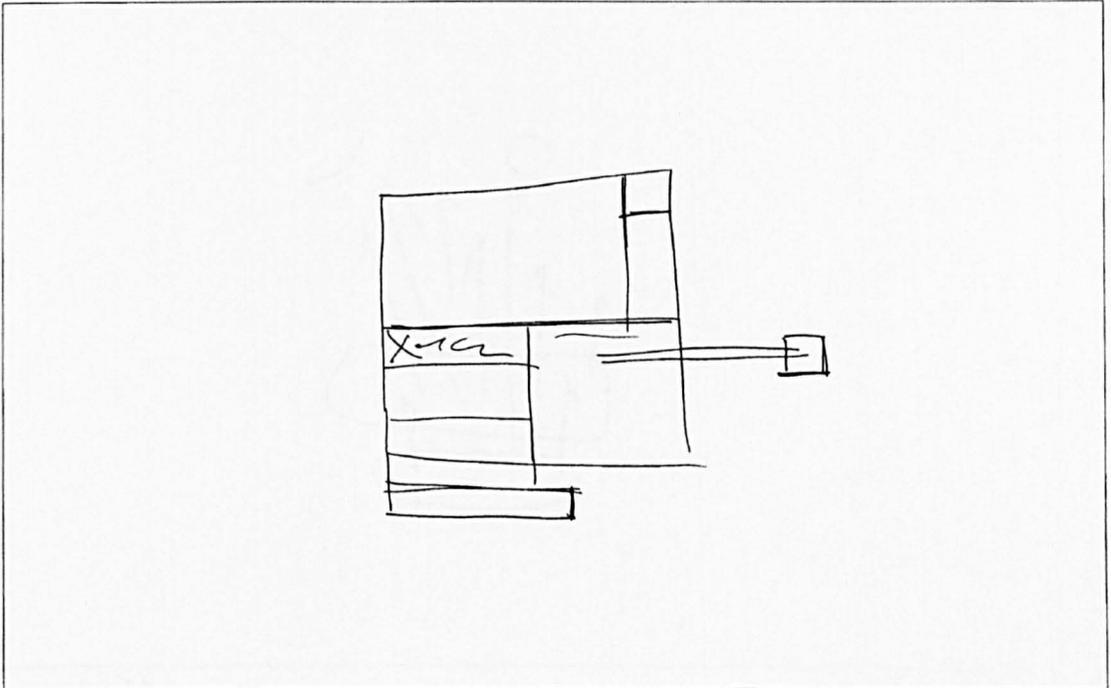
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Description n°

2

FIRST YEAR GROUP/Session 11 – Remembering task

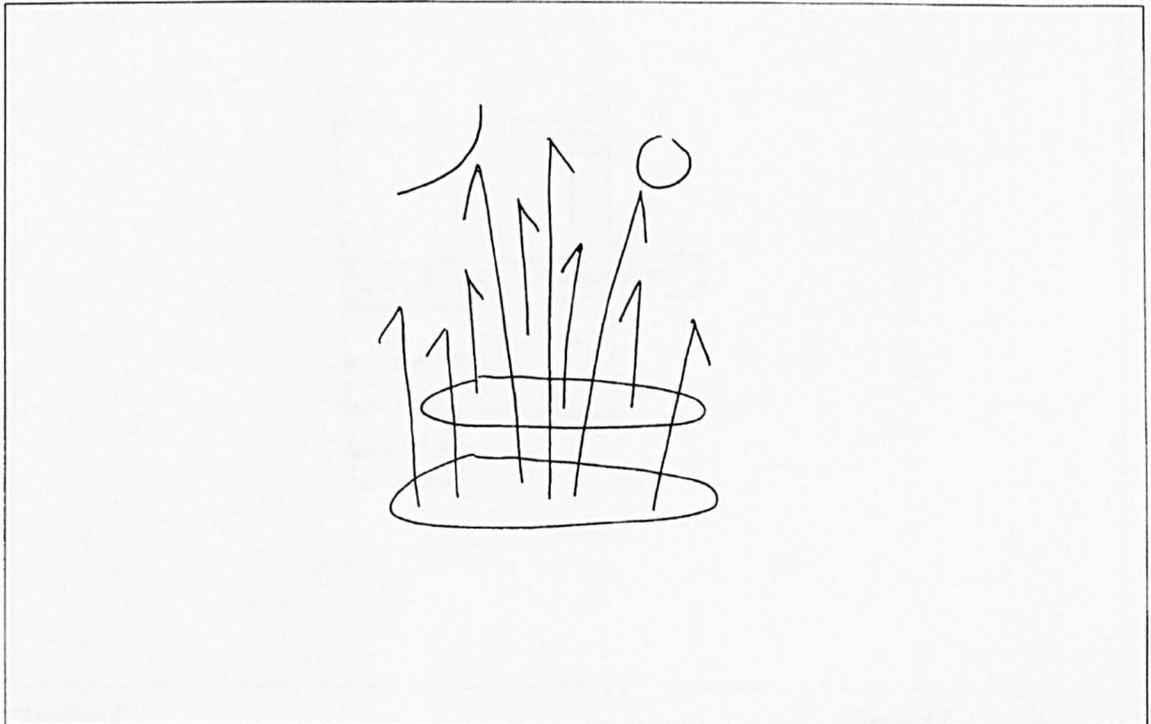
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture – PhD Architecture – Alexandre Menezes – 2002



Experiment n° 11

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture – PhD Architecture – Alexandre Menezes – 2002

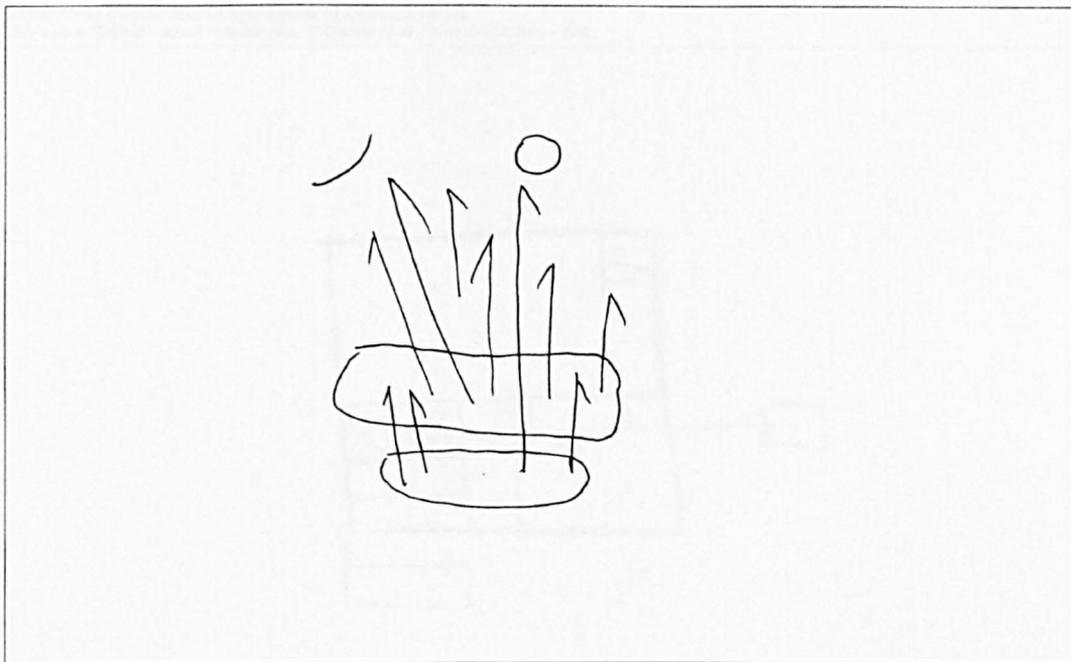


Experiment n° 21

Description n° 2

FIRST YEAR GROUP/Session 12 – Remembering task

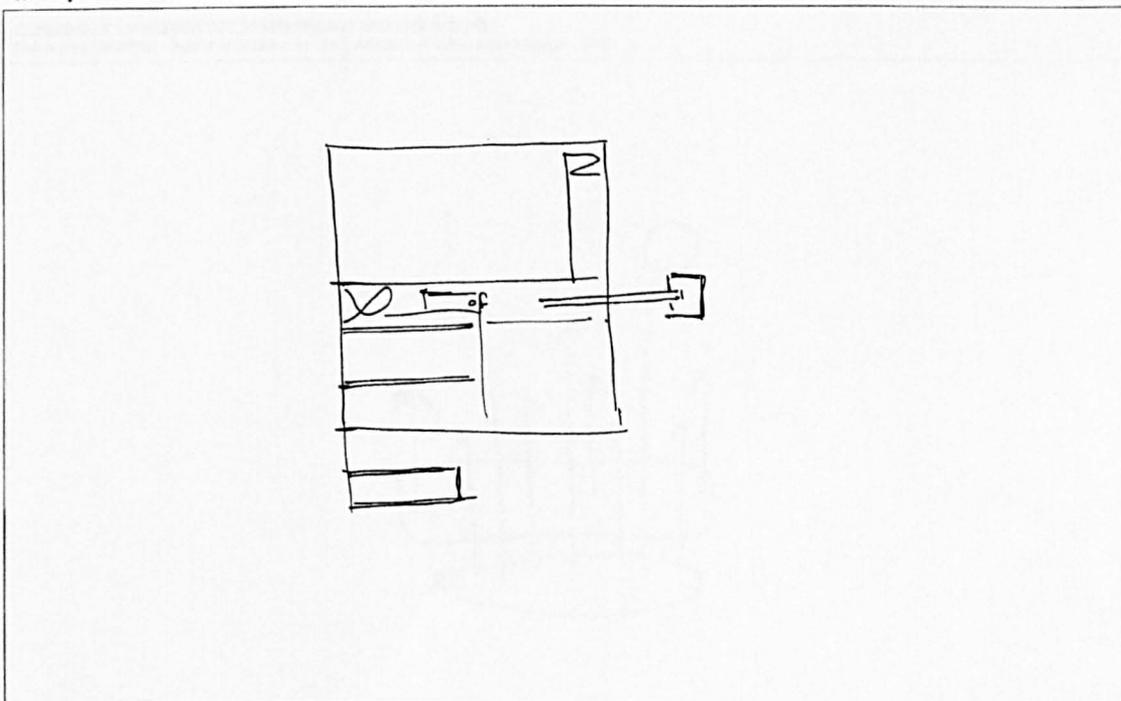
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 22

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

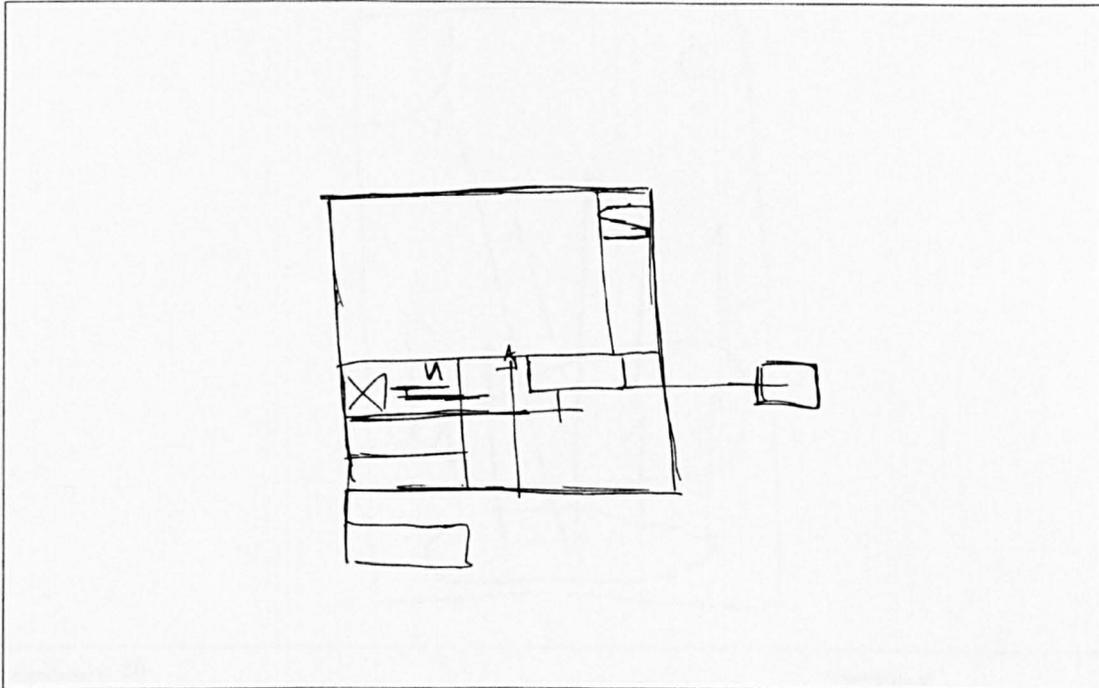


Experiment n° 22

Description n° 2

FIRST YEAR GROUP/Session 13 – Remembering task

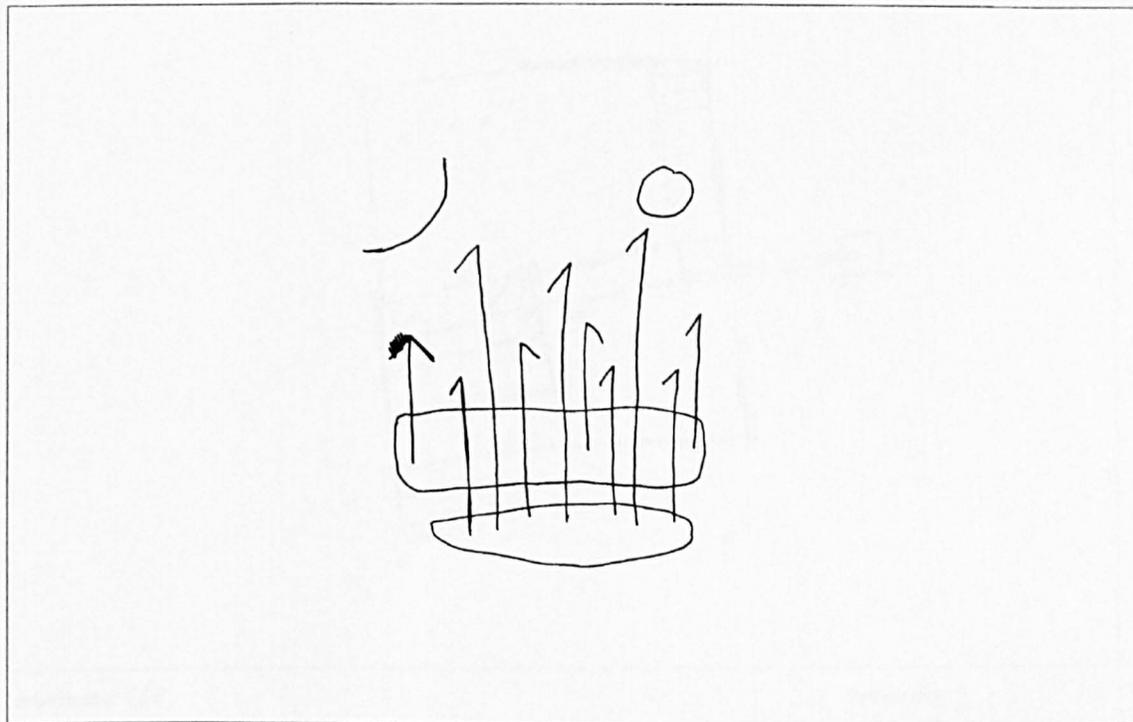
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 23

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

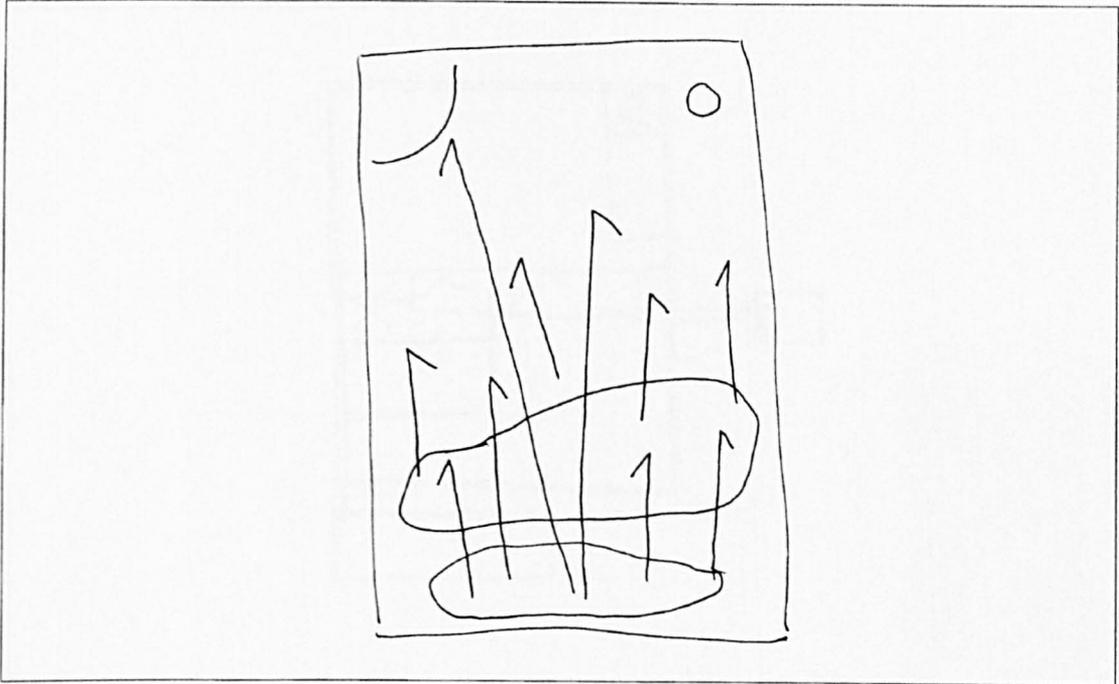


Experiment n° 23

Description n° 2

FIRST YEAR GROUP/Session 14 – Remembering task

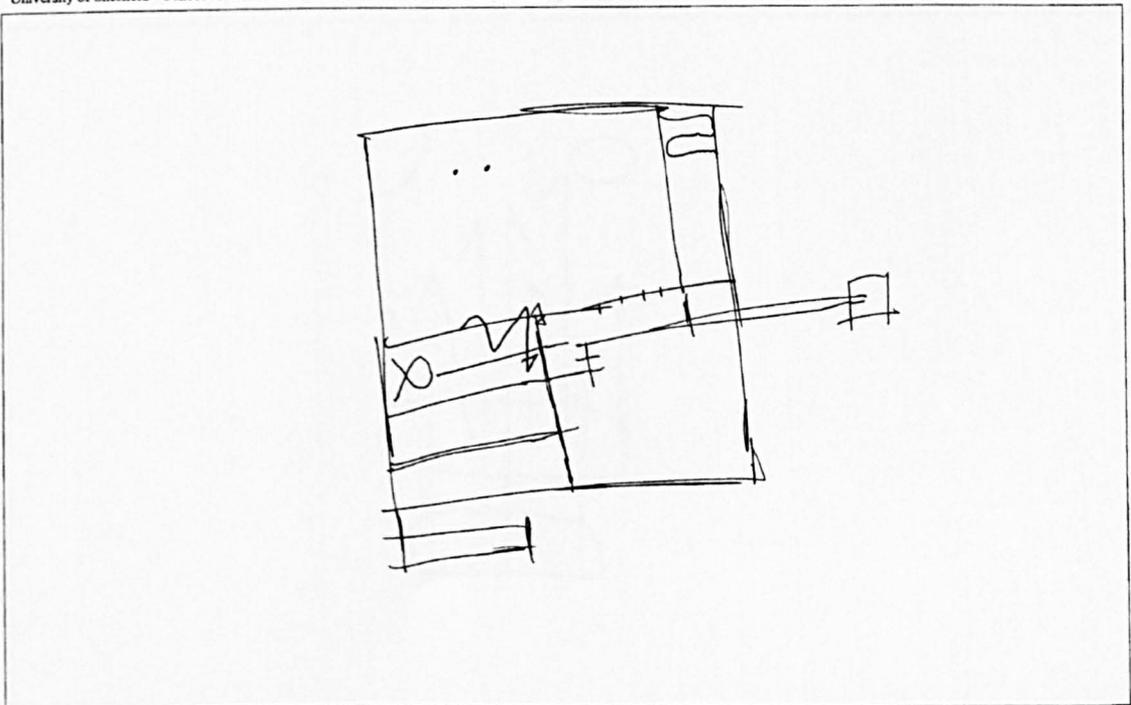
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 24

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

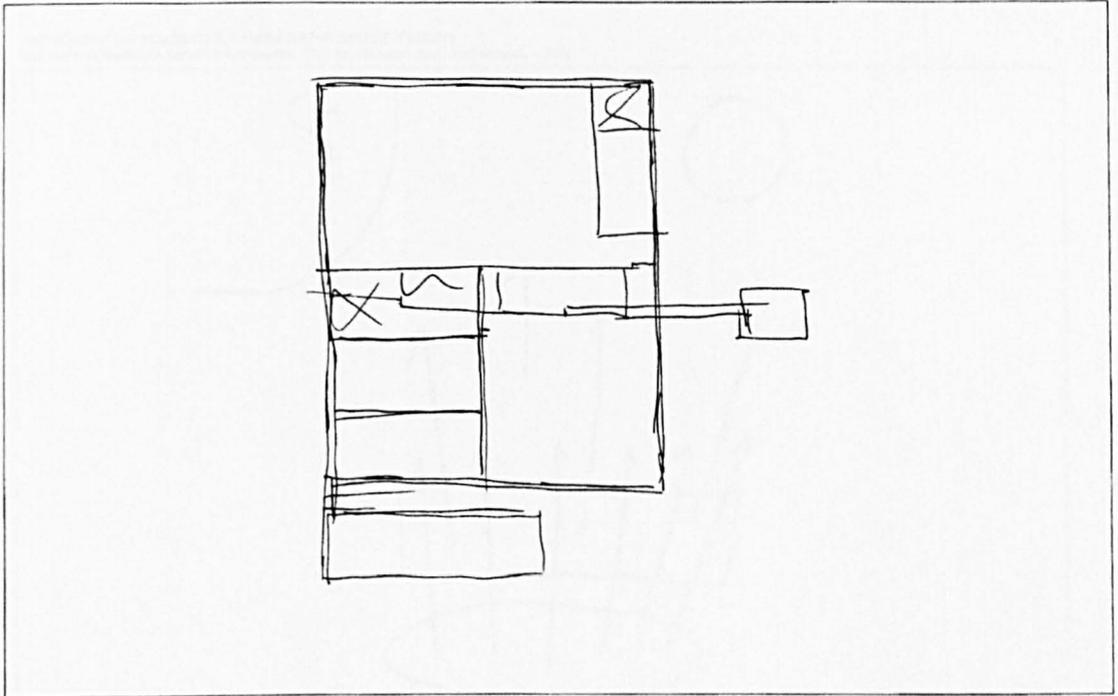


Experiment n° 24

Description n° 2

FIRST YEAR GROUP/Session 15 – Remembering task

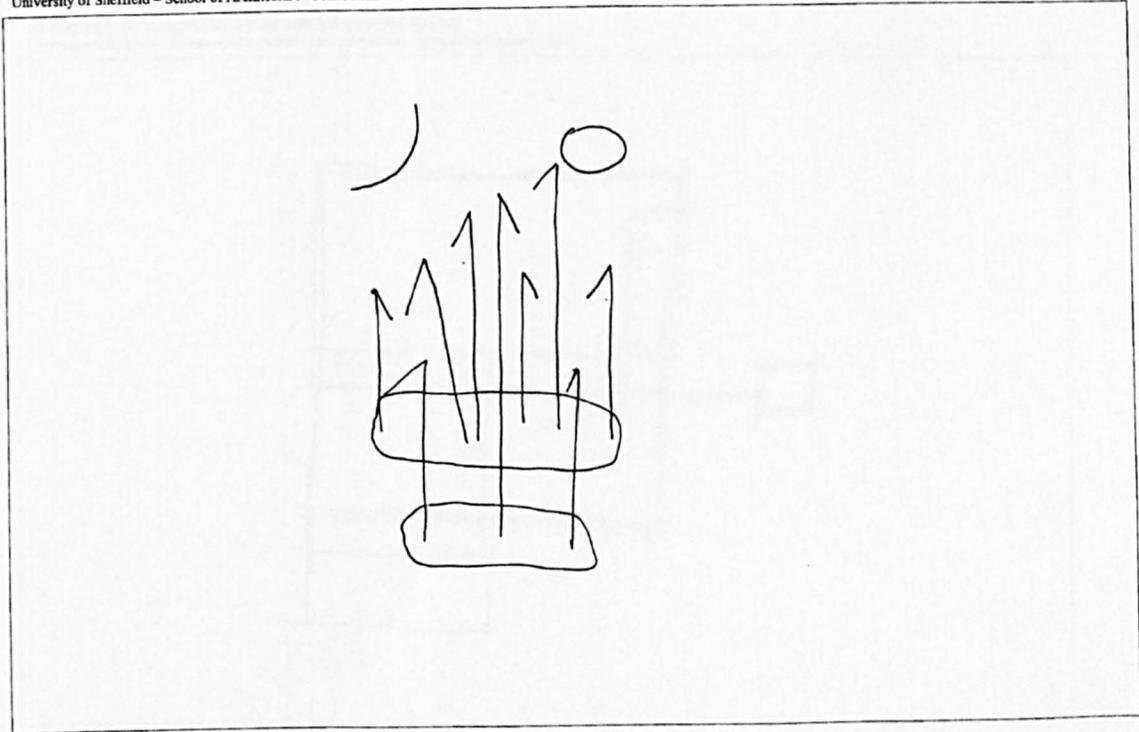
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 25

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



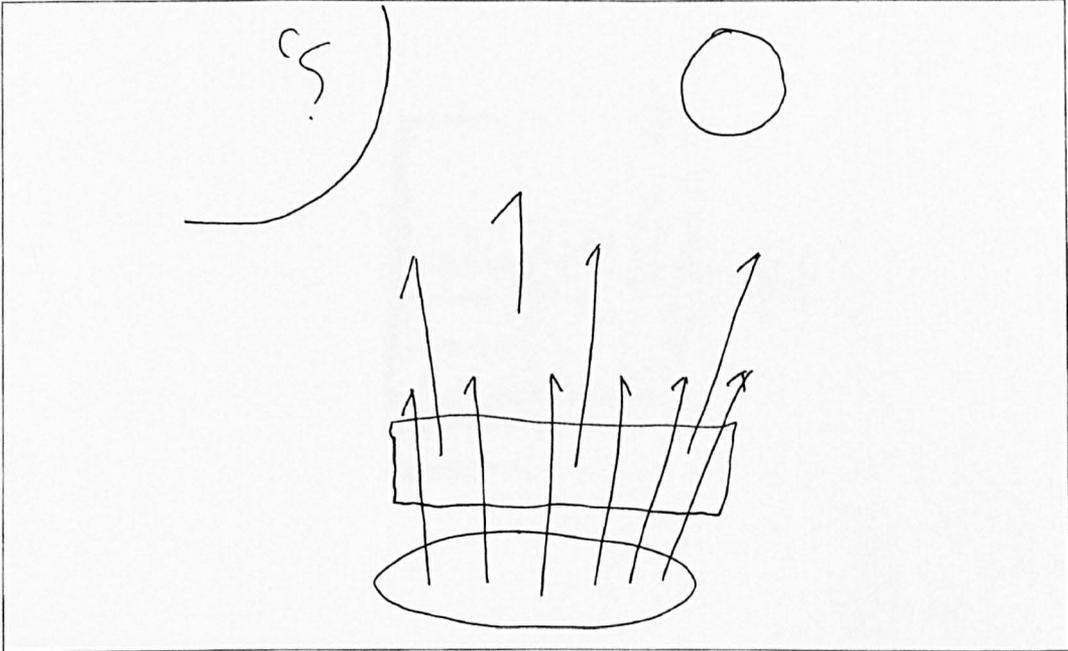
Experiment n° 25

Description n° 2

2 – DIPLOMA YEAR GROUP – Drawings from Remembering Task

DIPLOMA YEAR GROUP /Session 01 – Remembering task

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



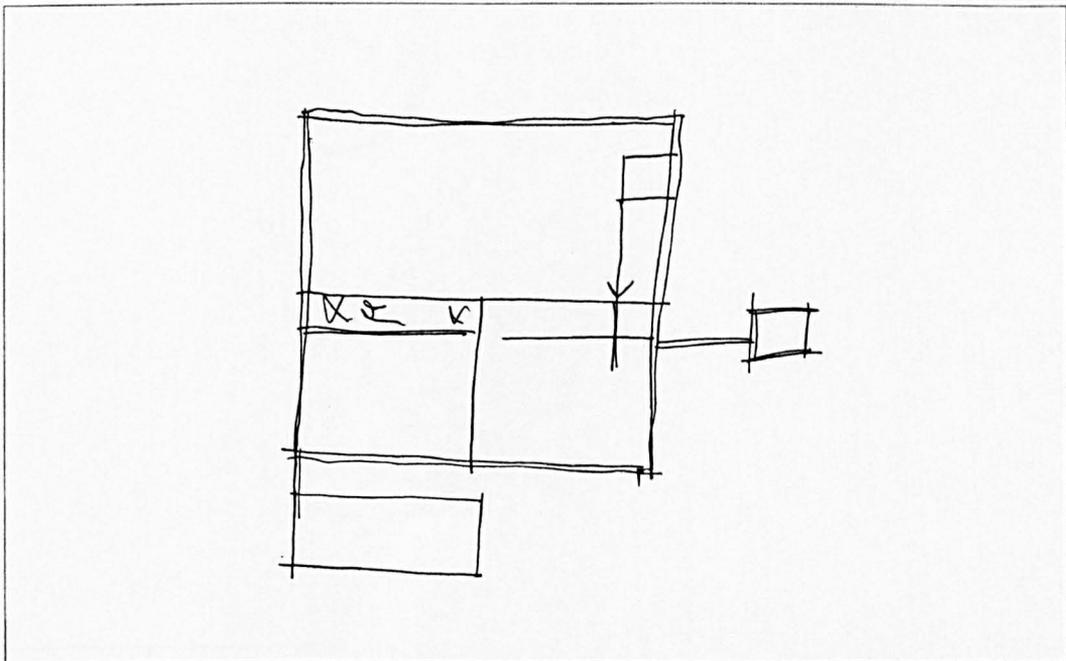
Experiment n°

Description n°

1

MEMO

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n°

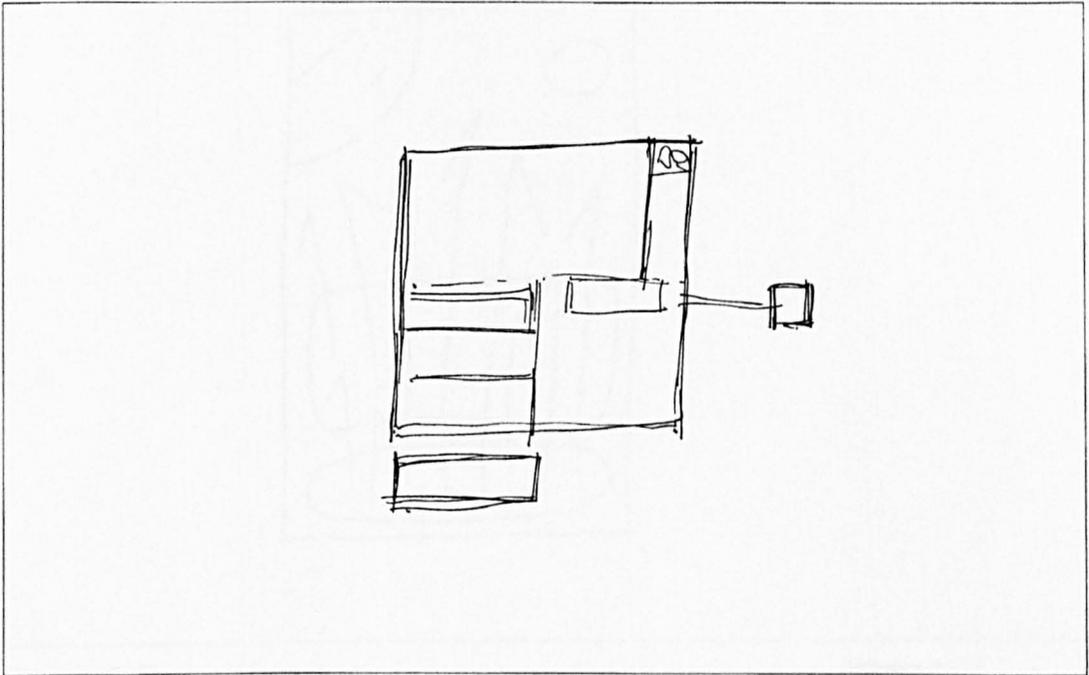
Description n°

2

MEMO

DIPLOMA YEAR GROUP /Session 02 – Remembering task

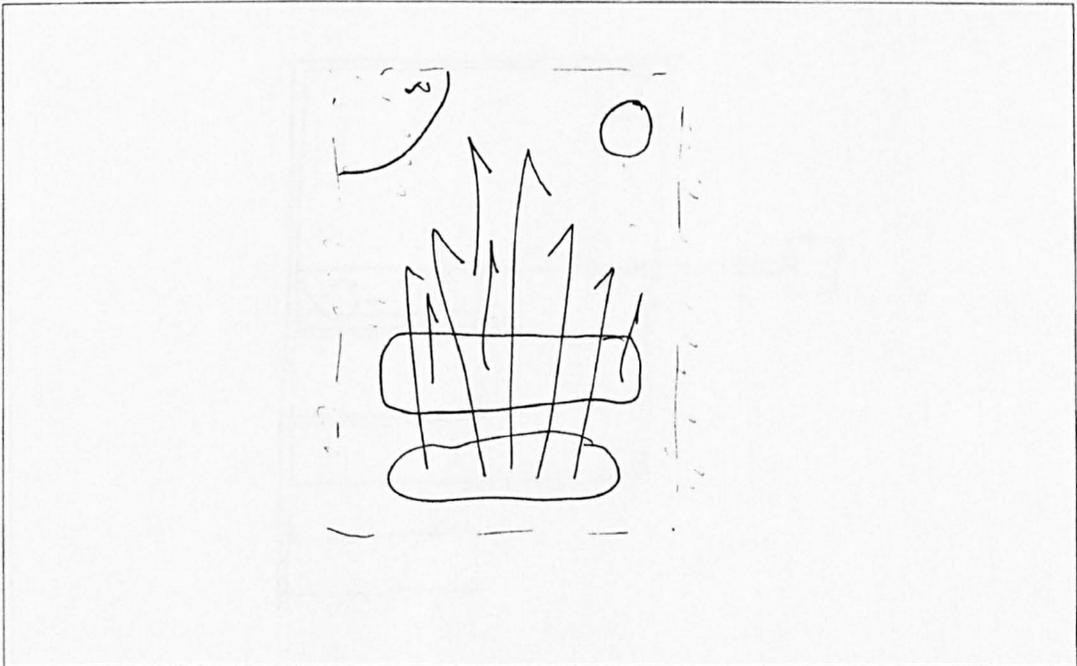
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 4

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

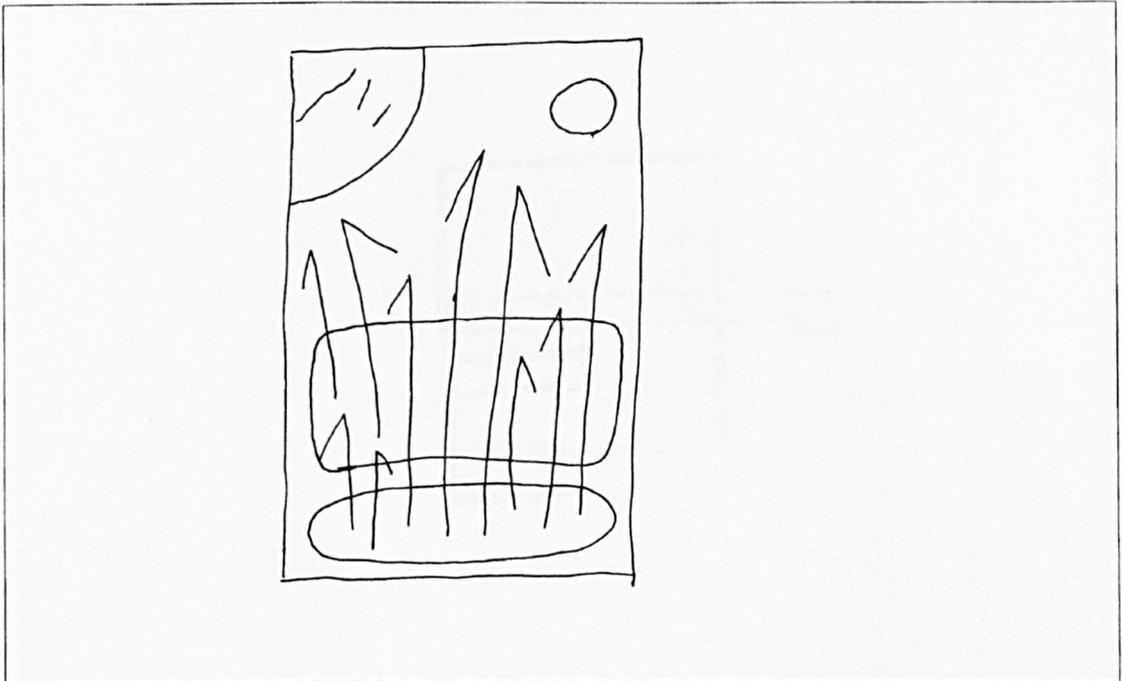


Experiment n° 4

Description n° 2

DIPLOMA YEAR GROUP /Session 03 – Remembering task

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

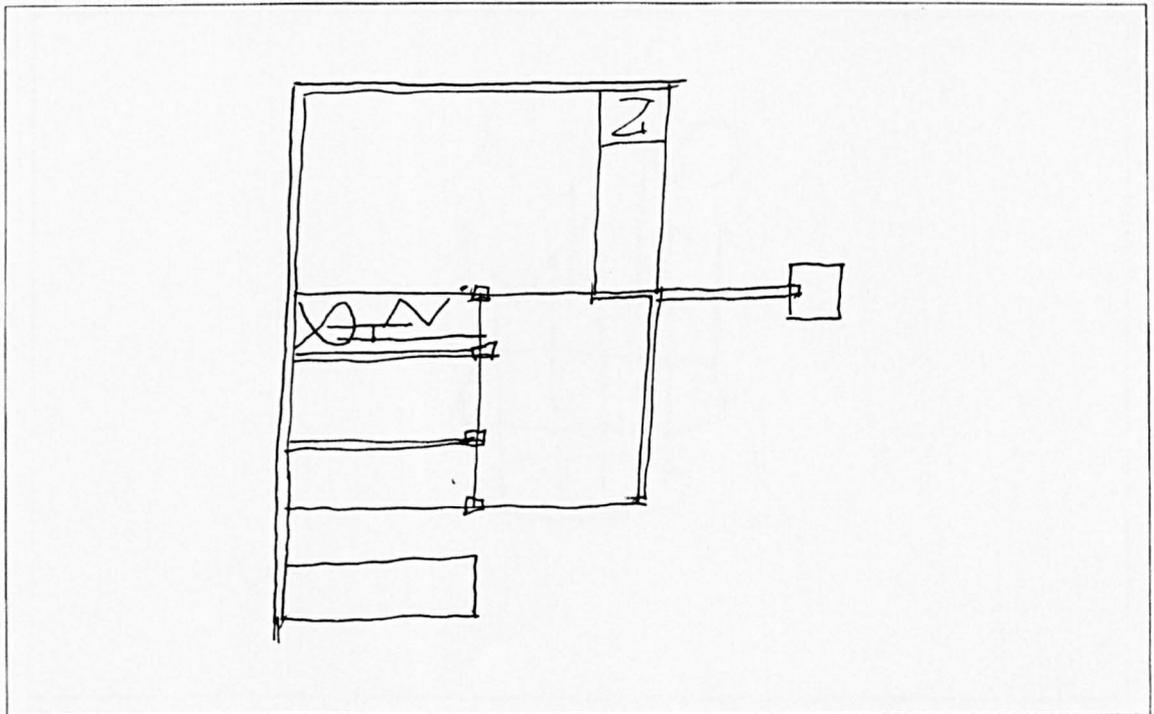


Experiment n° 5

Description n° /

MEMORY

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



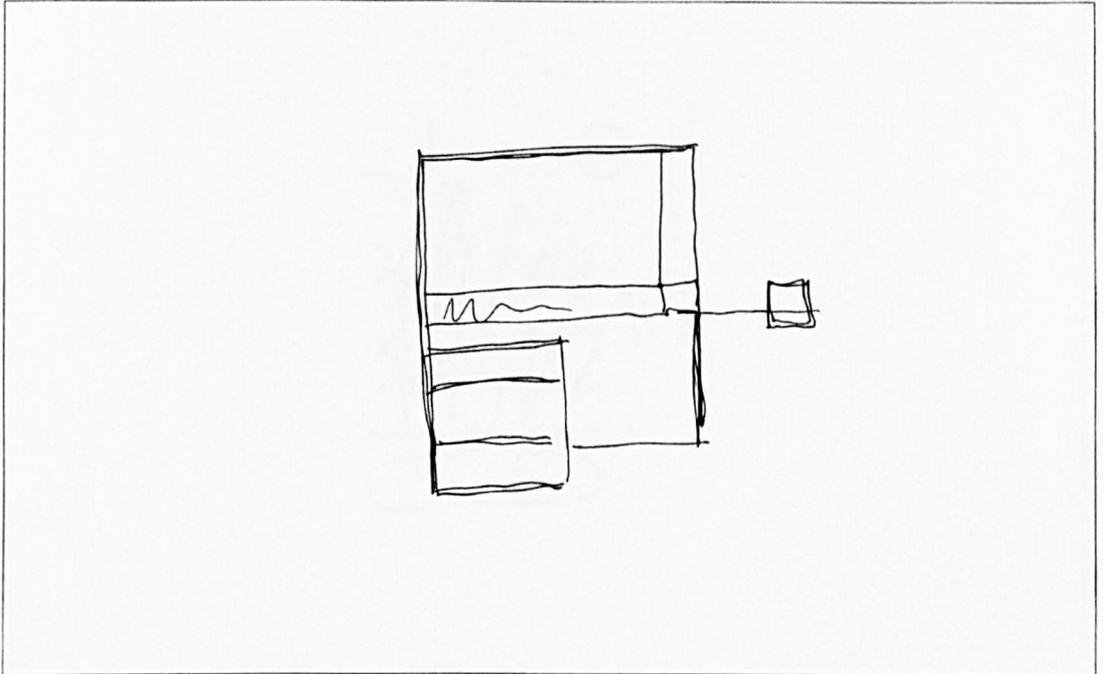
Experiment n°

Description n°

MEMORY

DIPLOMA YEAR GROUP /Session 04 – Remembering task

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

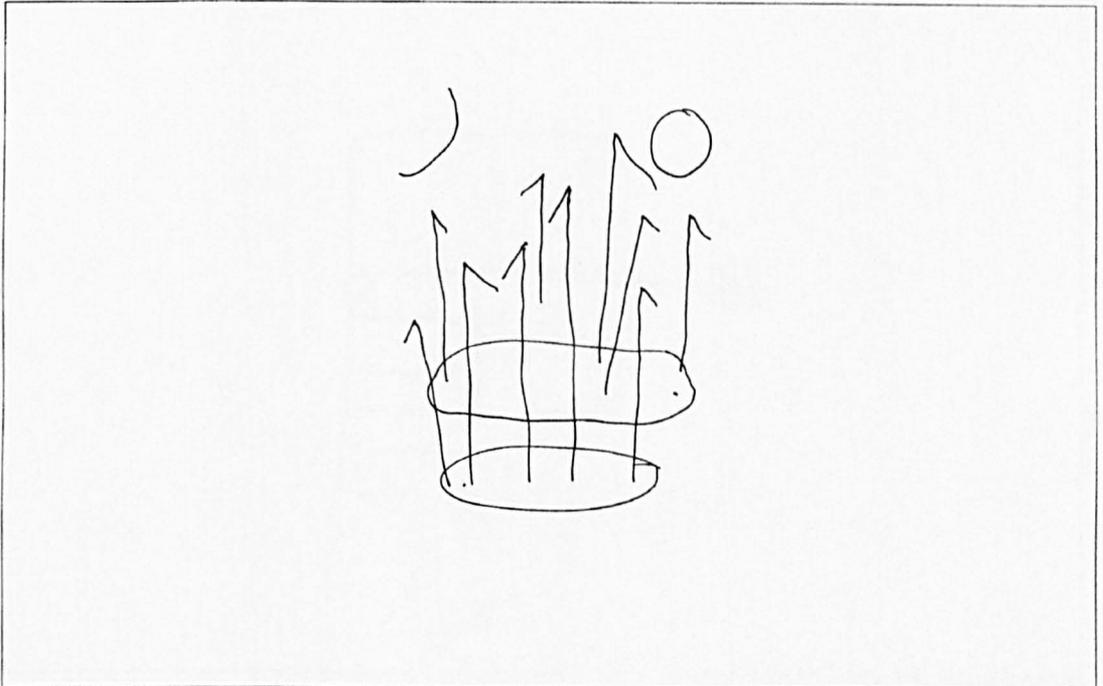


Experiment n° 6

Description n° |

MENES

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



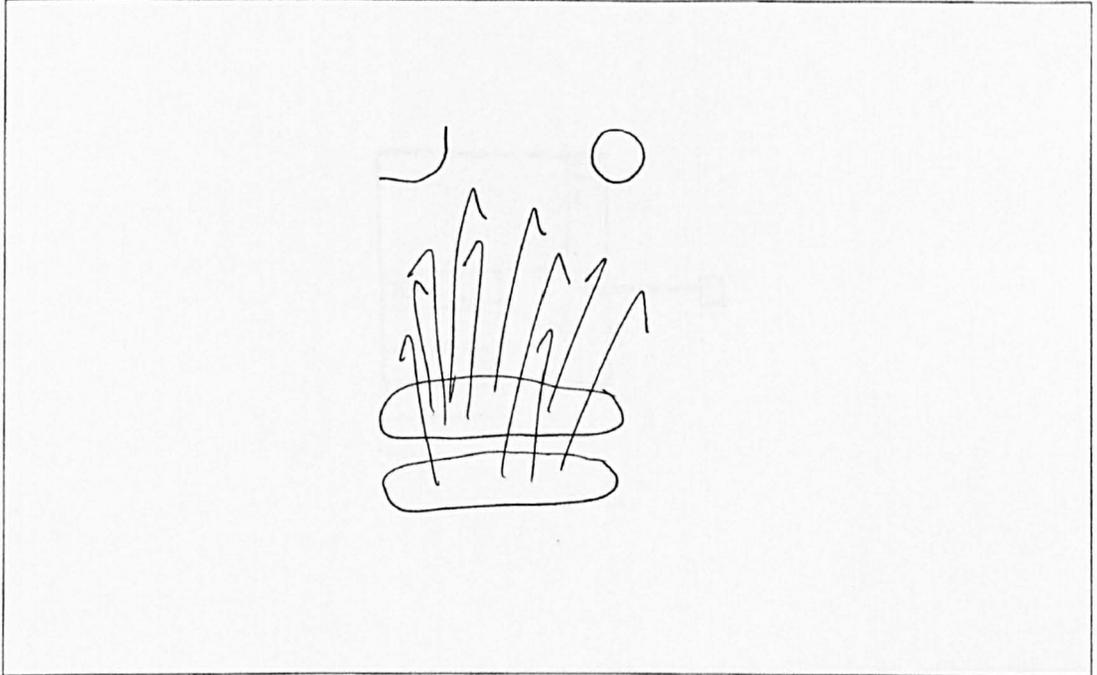
Experiment n° 6

Description n° 2

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DIPLOMA YEAR GROUP /Session 05 – Remembering task

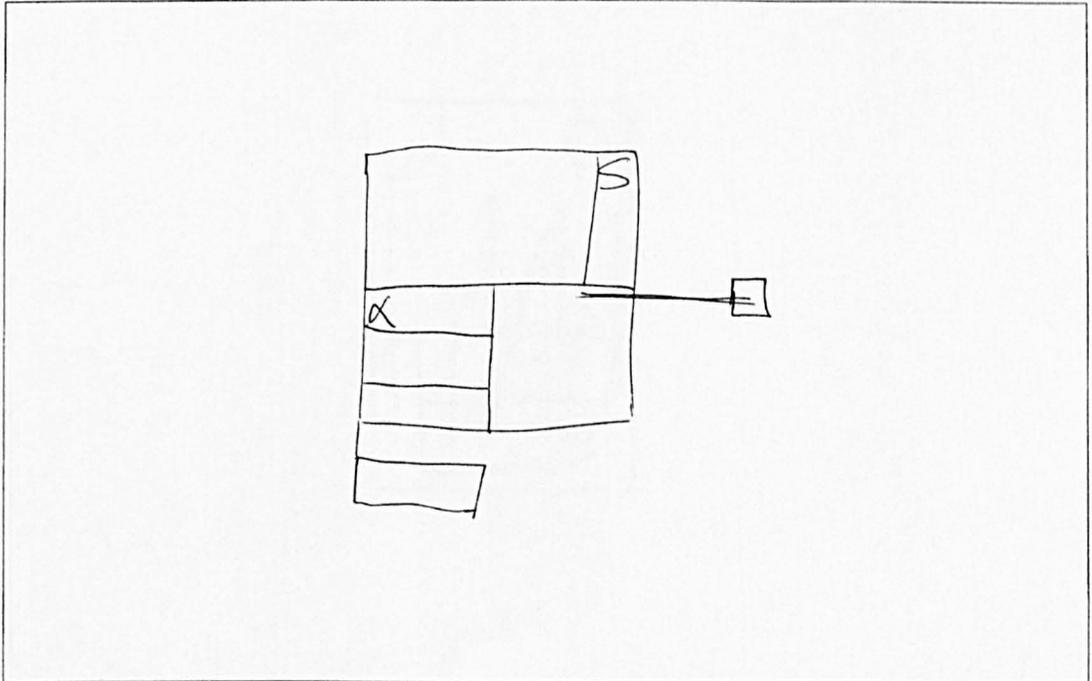
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 7

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

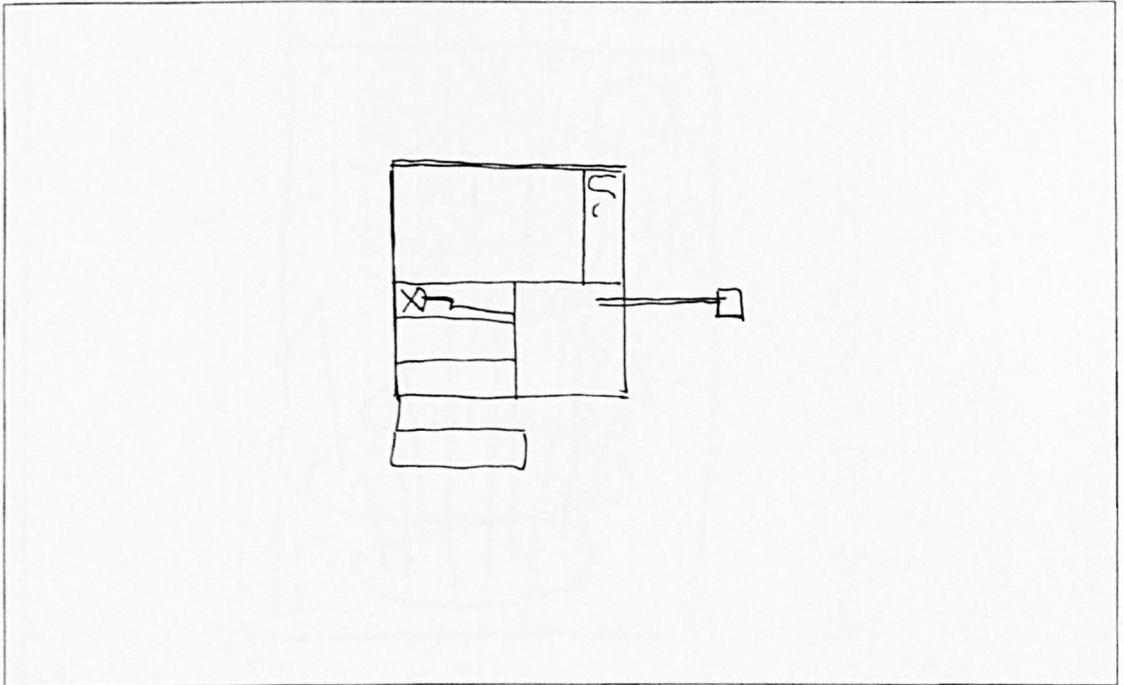


Experiment n° 7

Description n° 2

DIPLOMA YEAR GROUP /Session 06 – Remembering task

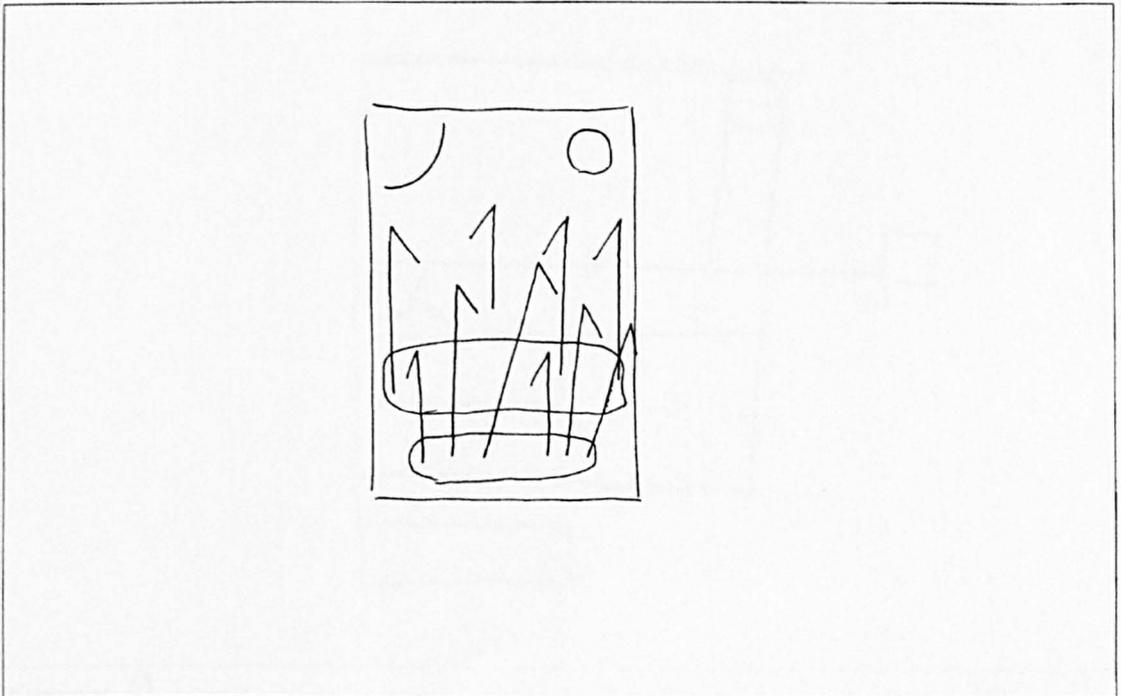
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 8

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



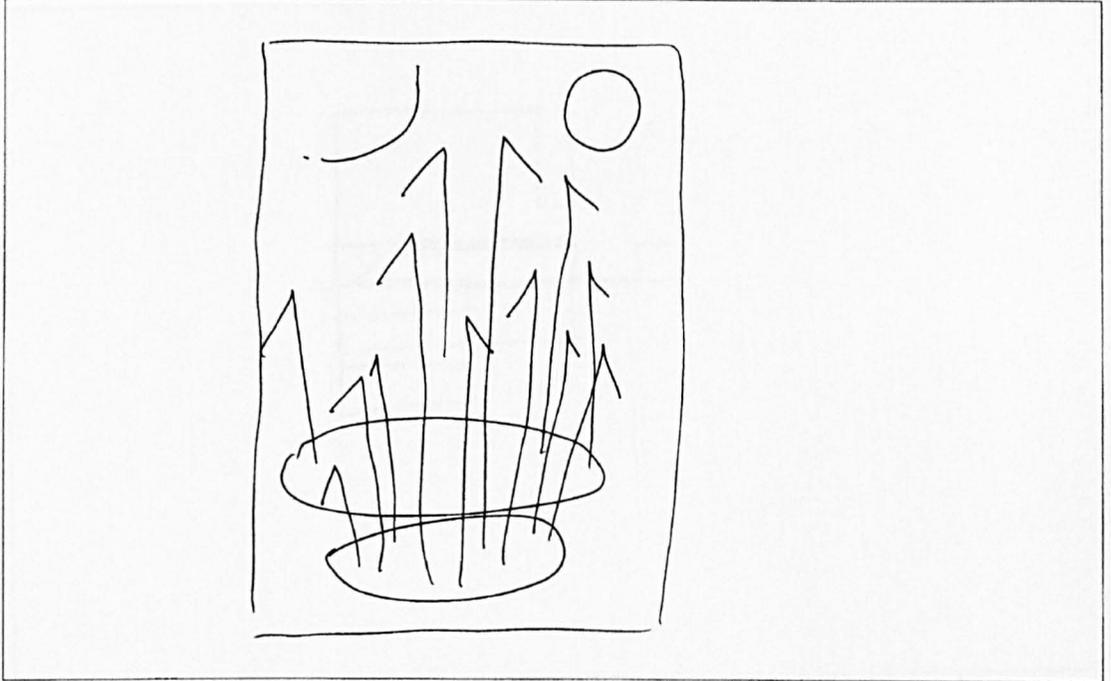
Experiment n° 8

Description n° 2

MEMO

DIPLOMA YEAR GROUP /Session 07 – Remembering task

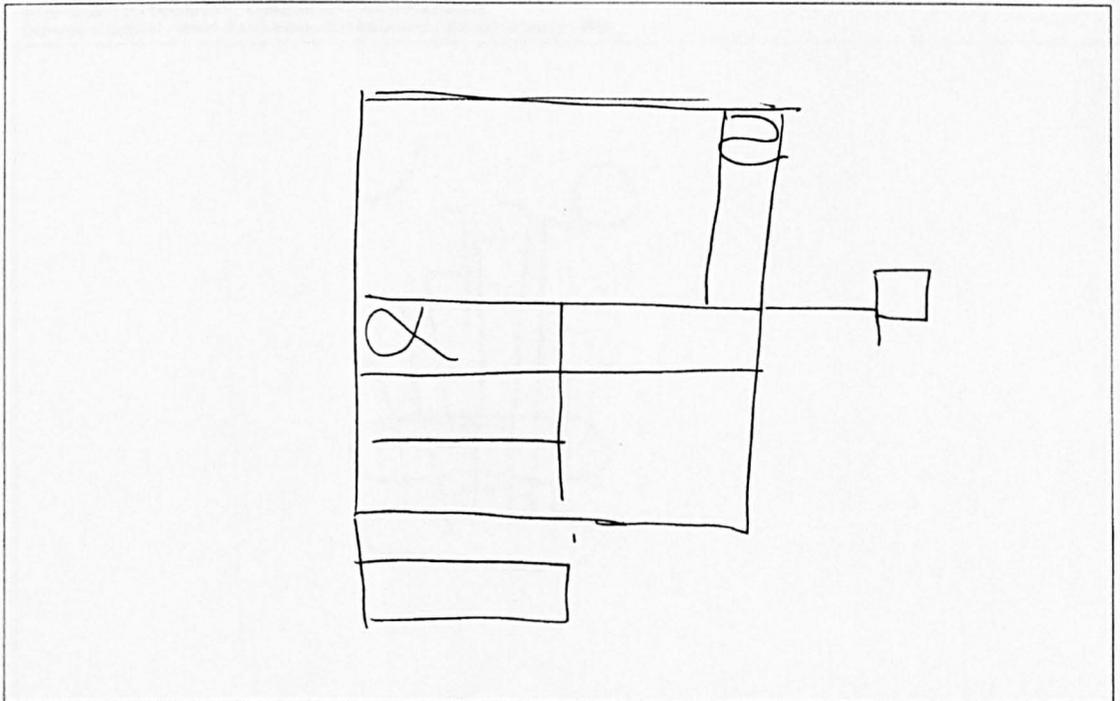
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 9

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

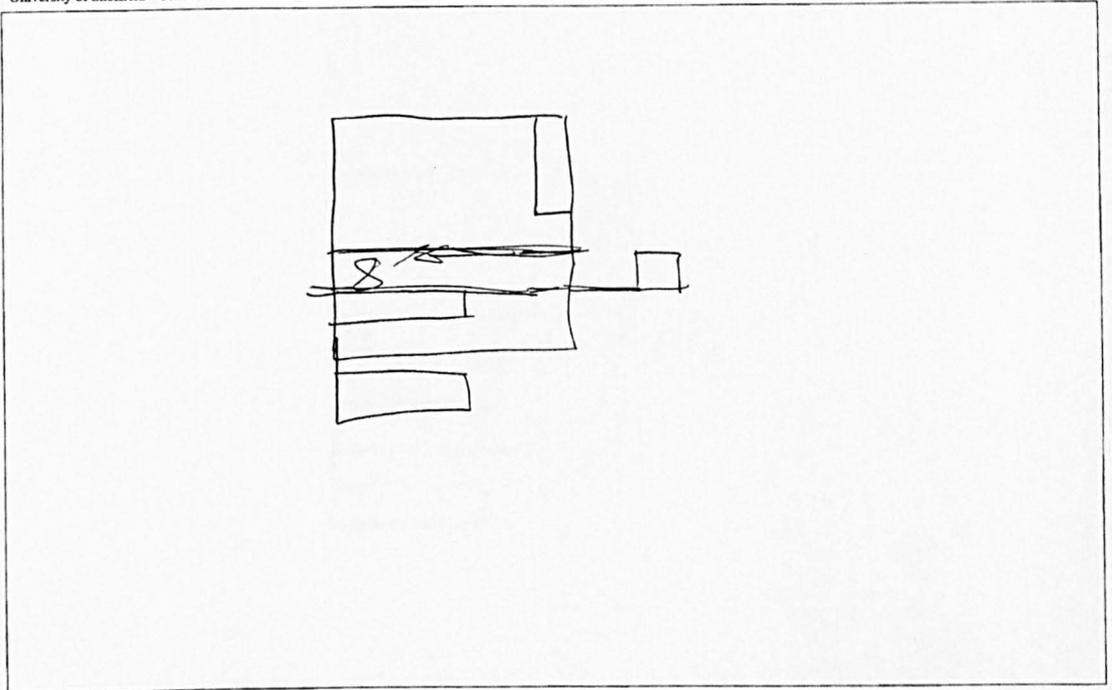


Experiment n° 9

Description n° 2

DIPLOMA YEAR GROUP /Session 08 – Remembering task

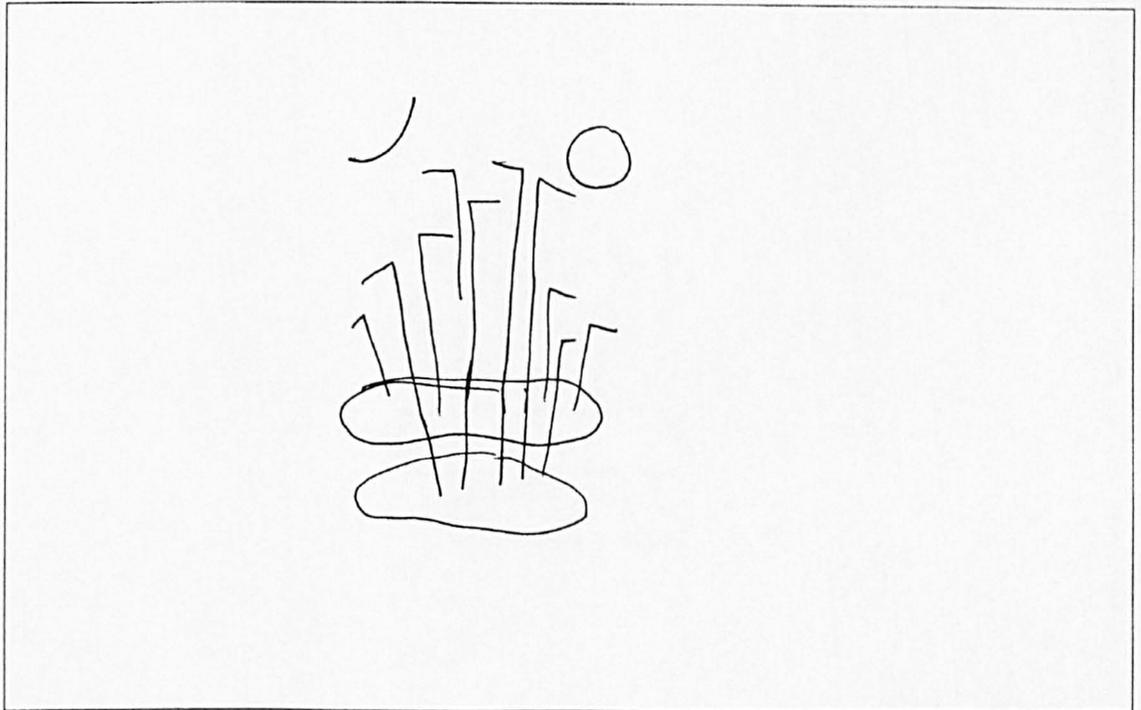
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 10

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

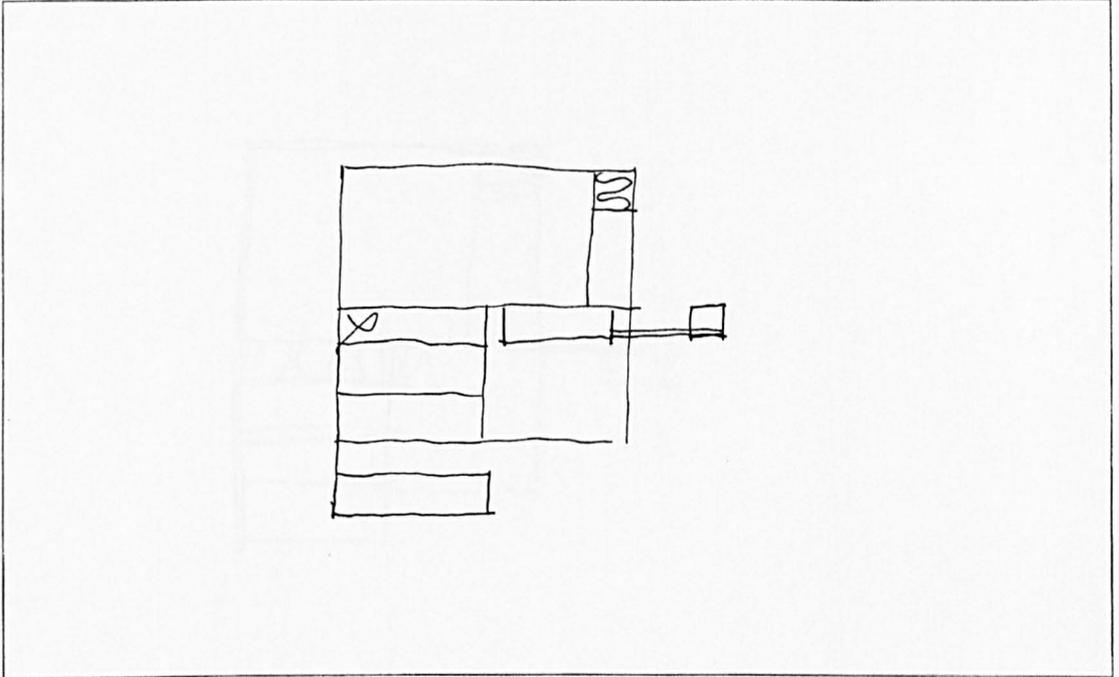


Experiment n° 10

Description n° 2

DIPLOMA YEAR GROUP /Session 09 – Remembering task

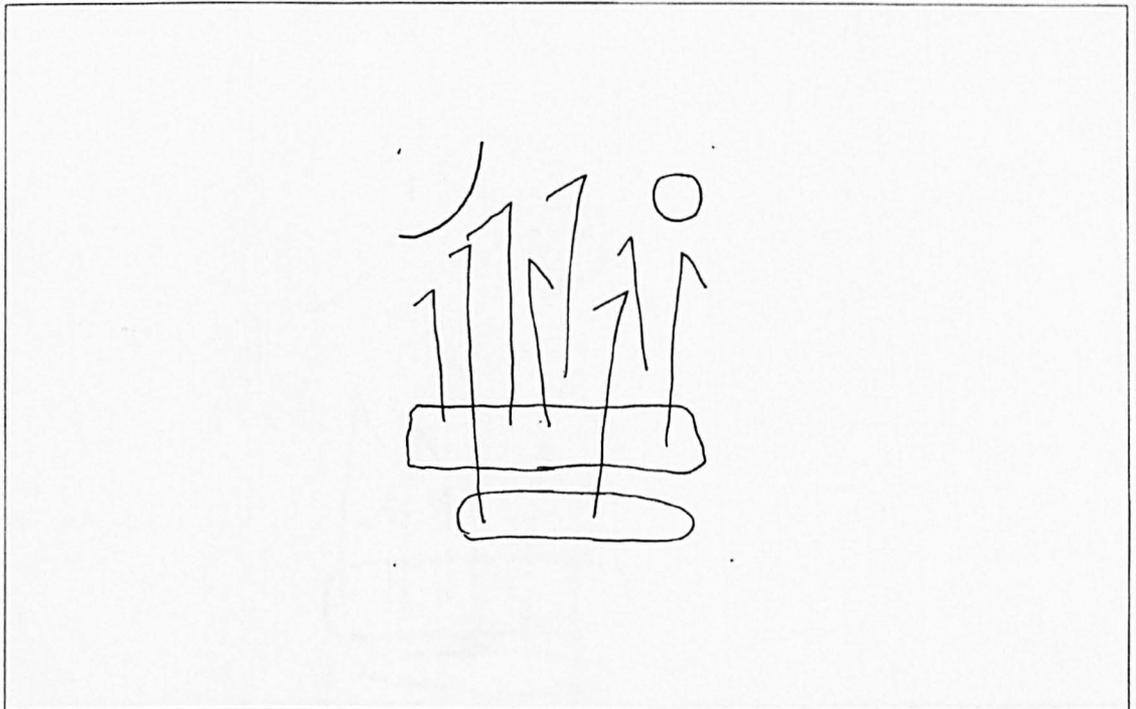
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 11

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

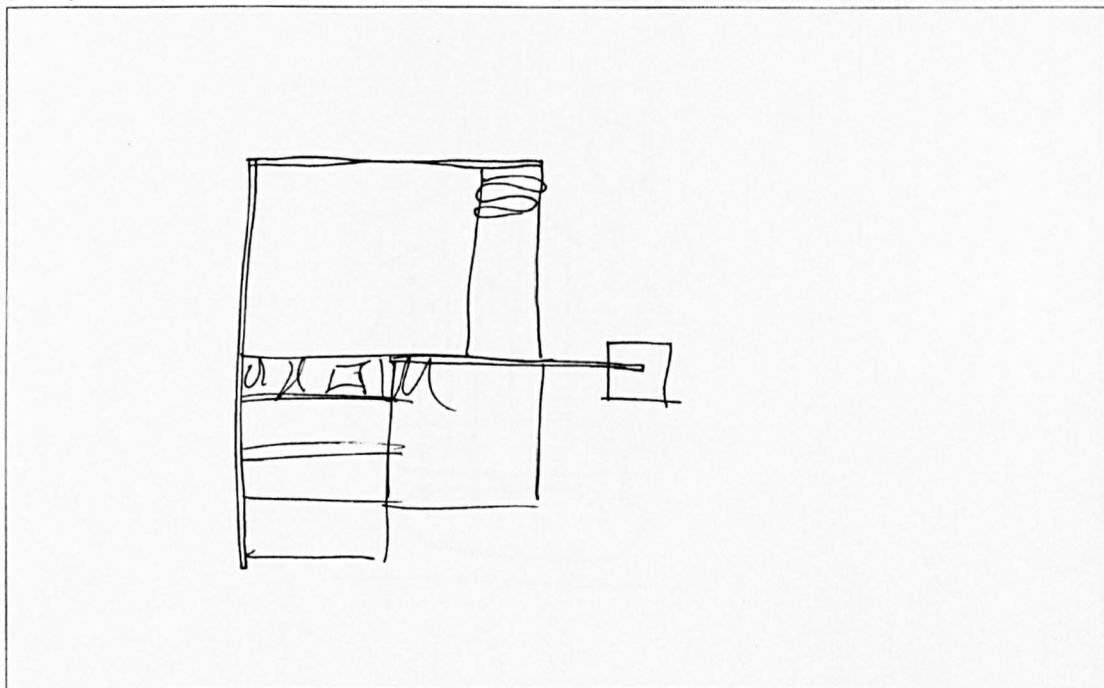


Experiment n° 11

Description n° 2

DIPLOMA YEAR GROUP /Session 10 – Remembering task

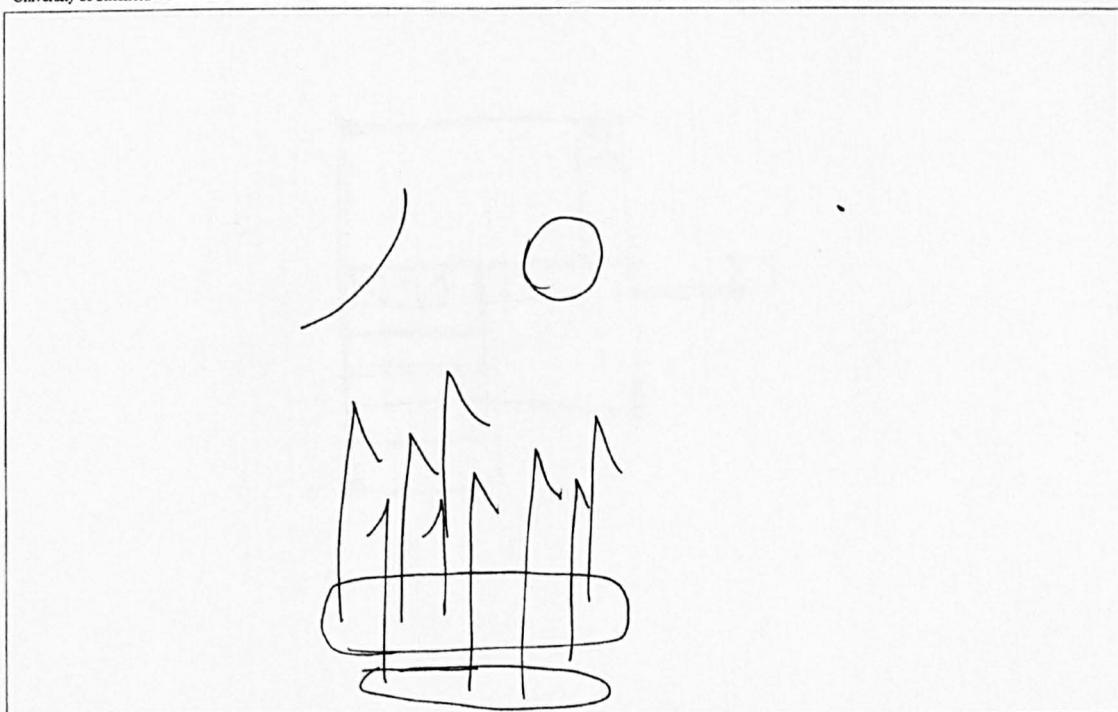
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 15

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

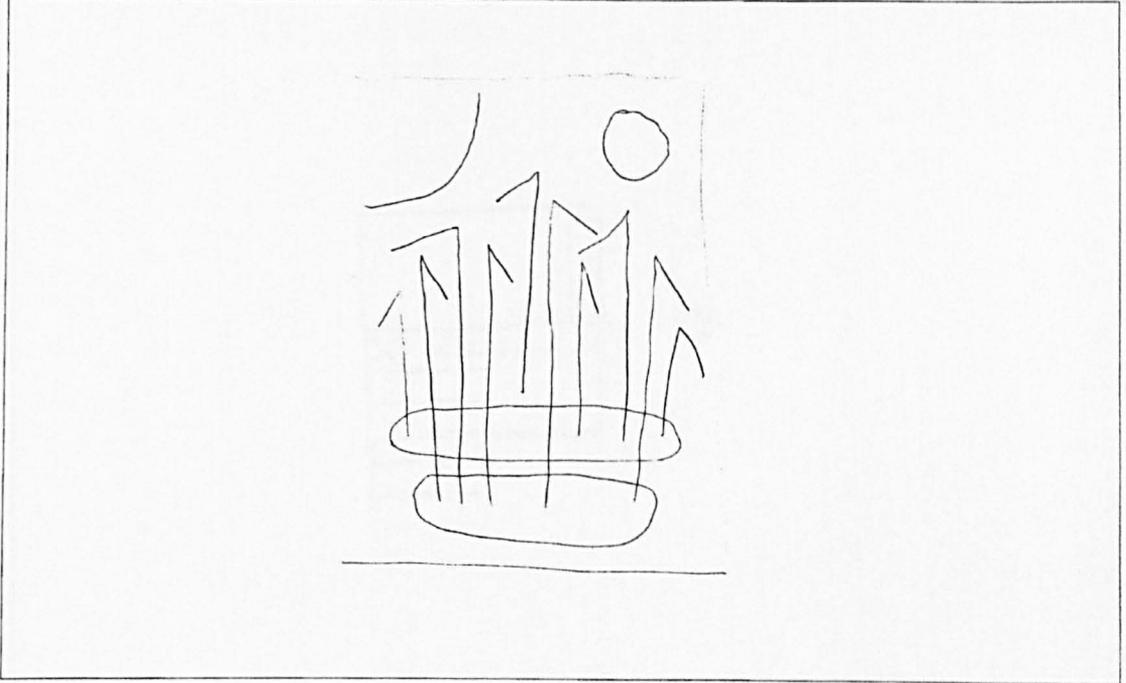


Experiment n° 15

Description n° 2

DIPLOMA YEAR GROUP /Session 11 – Remembering task

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

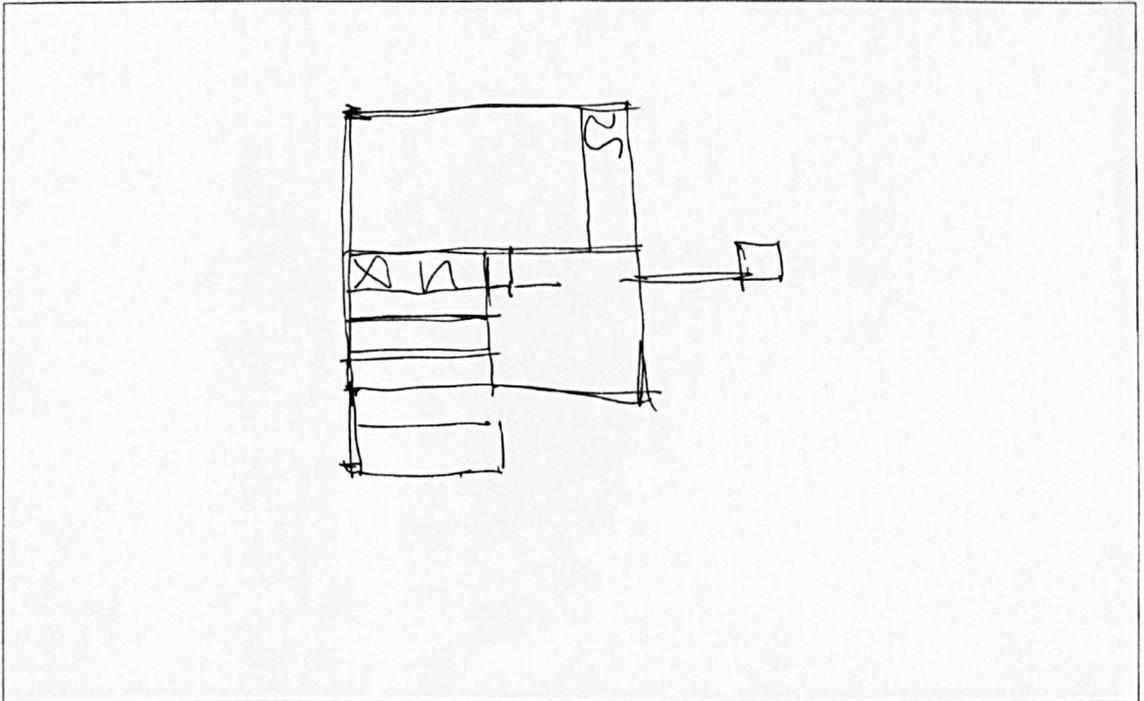


Experiment n° 26

Description n°

1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



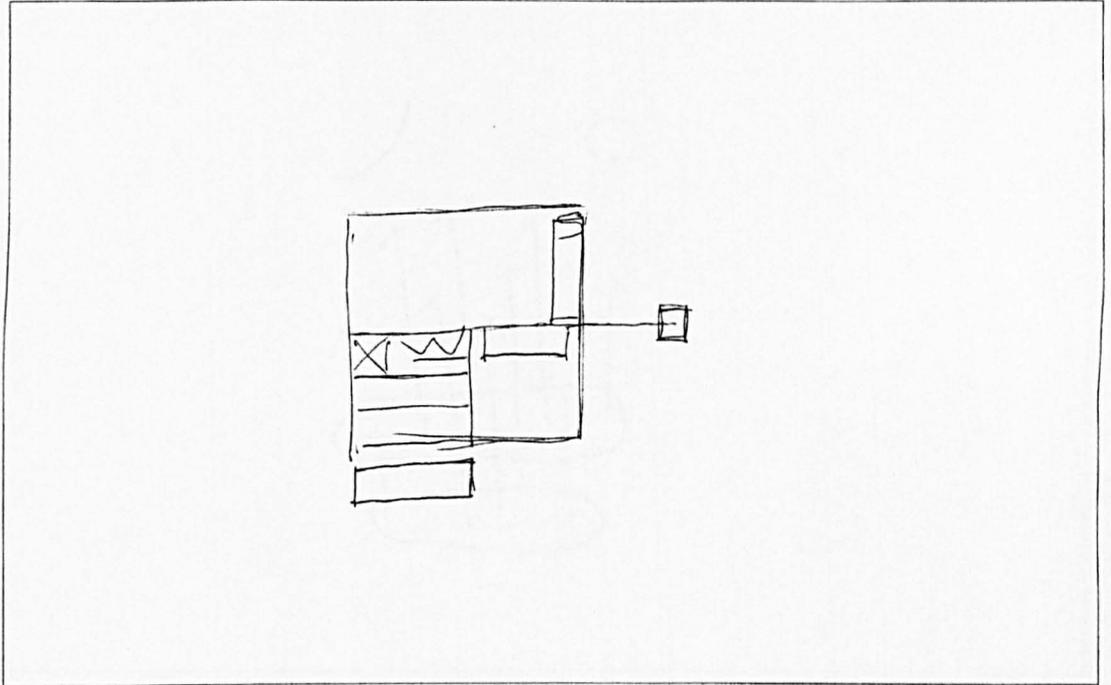
Experiment n° 26

Description n°

2

DIPLOMA YEAR GROUP /Session 12 – Remembering task

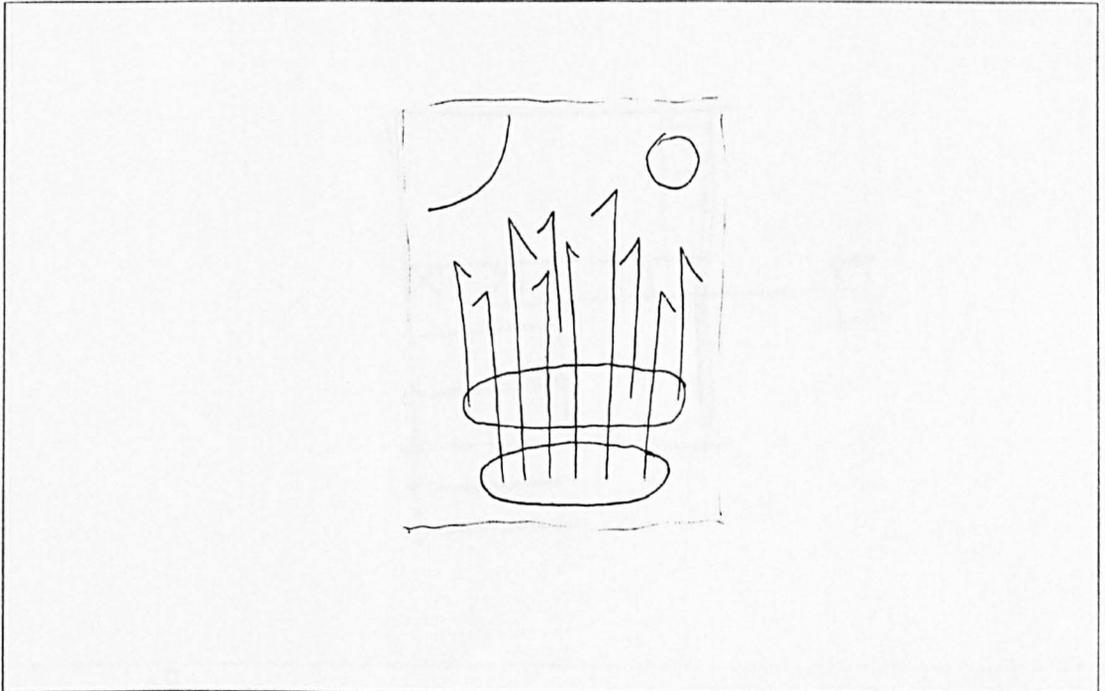
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 27

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

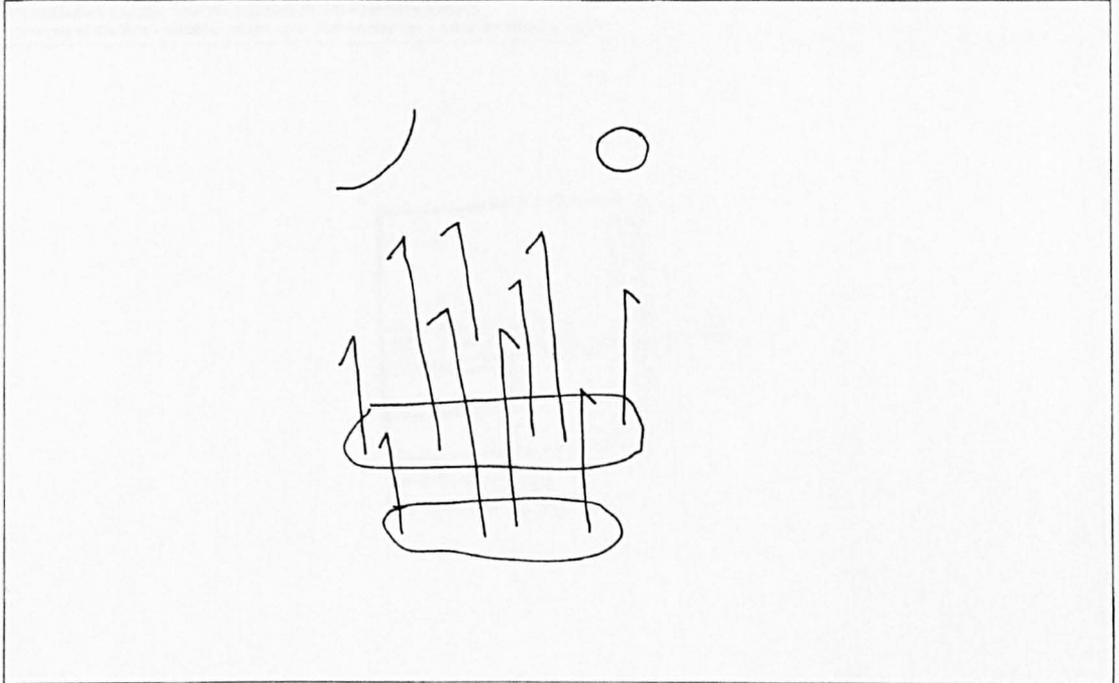


Experiment n° 27

Description n° 2

DIPLOMA YEAR GROUP /Session 13 – Remembering task

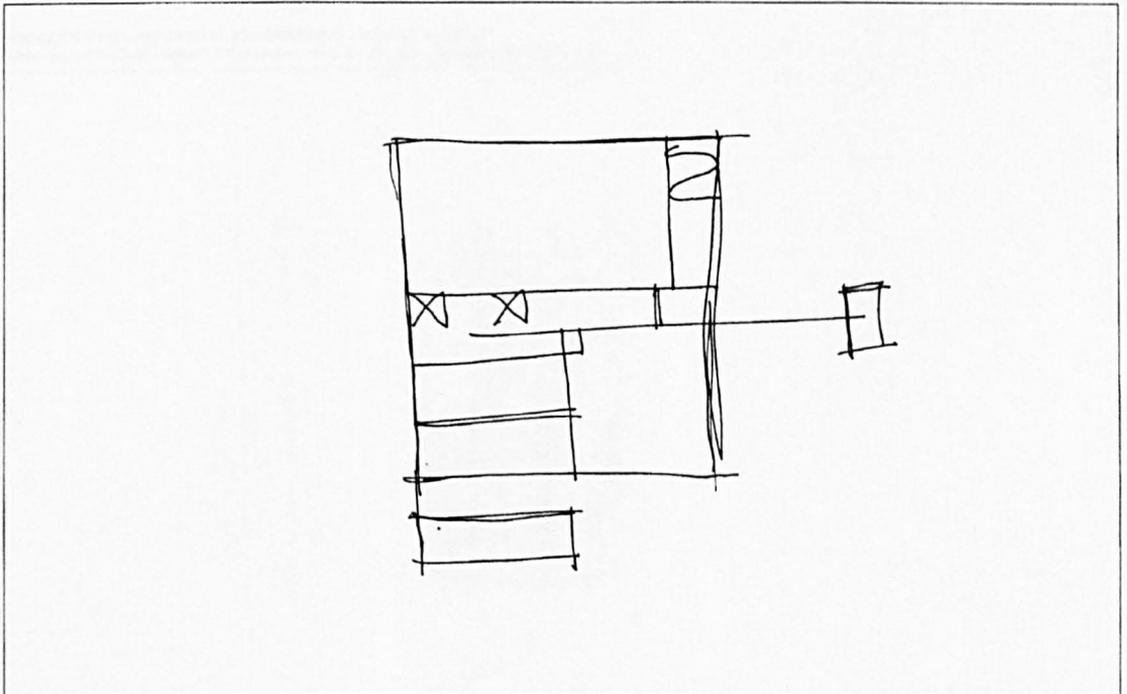
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n° 28

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002

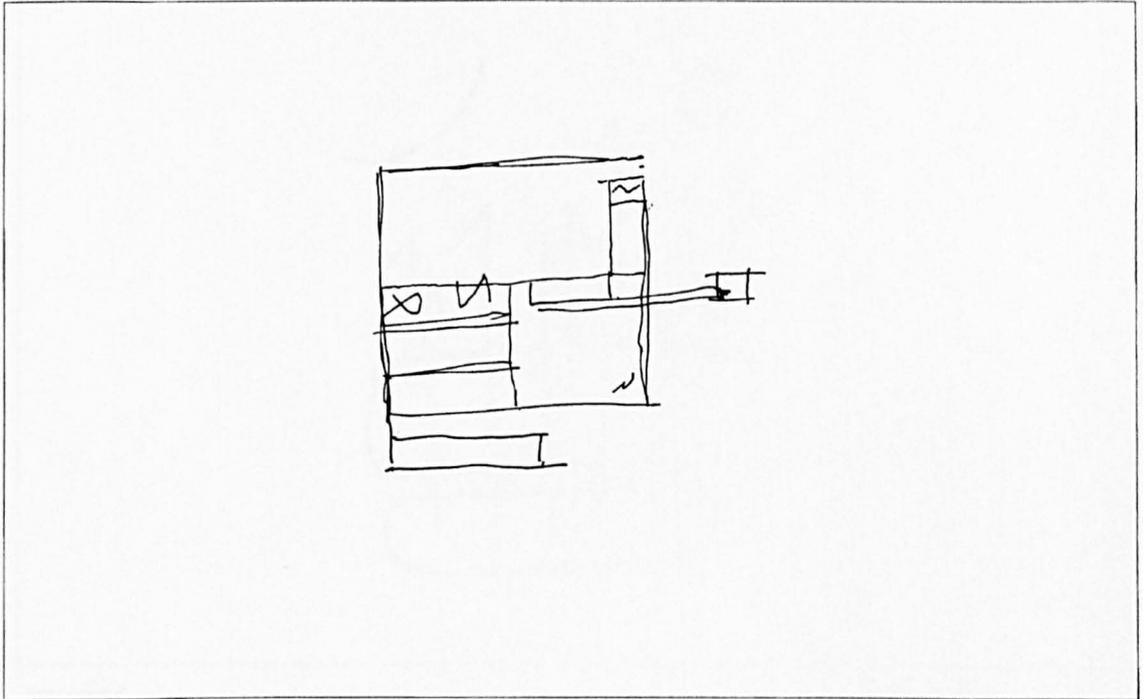


Experiment n° 28

Description n° 2

DIPLOMA YEAR GROUP /Session 14 – Remembering task

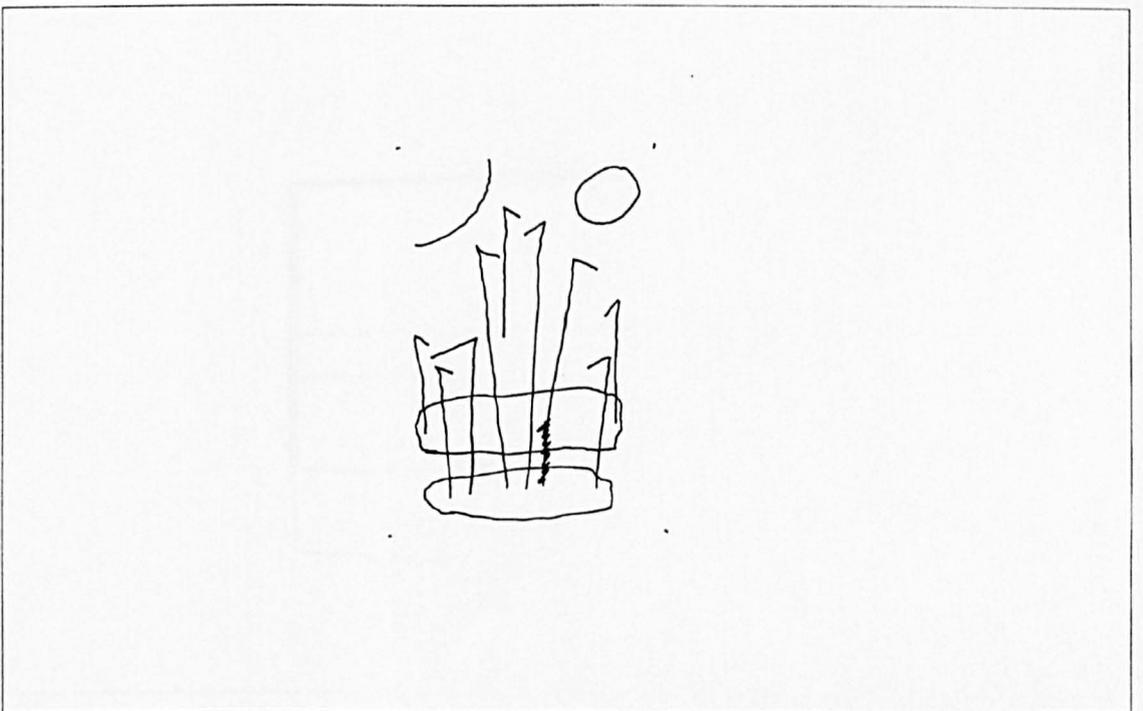
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture - Alexandre Menezes – 2002



Experiment n° 1

Description n° 1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture - Alexandre Menezes – 2002

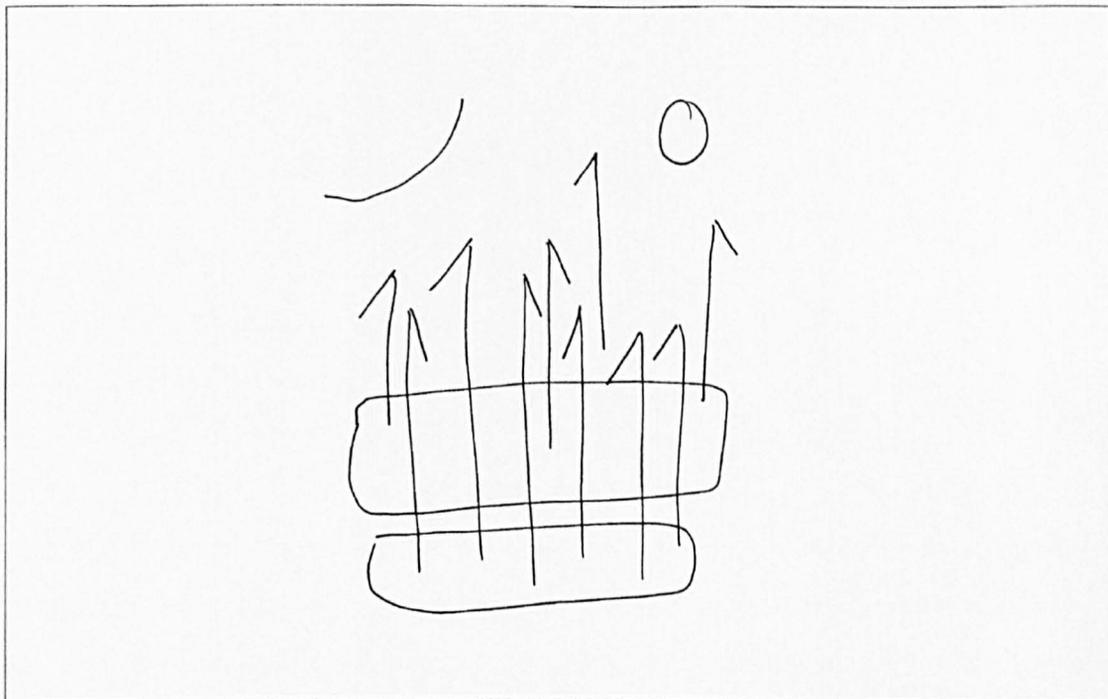


Experiment n° 29

Description n° 2

DIPLOMA YEAR GROUP /Session 15 – Remembering task

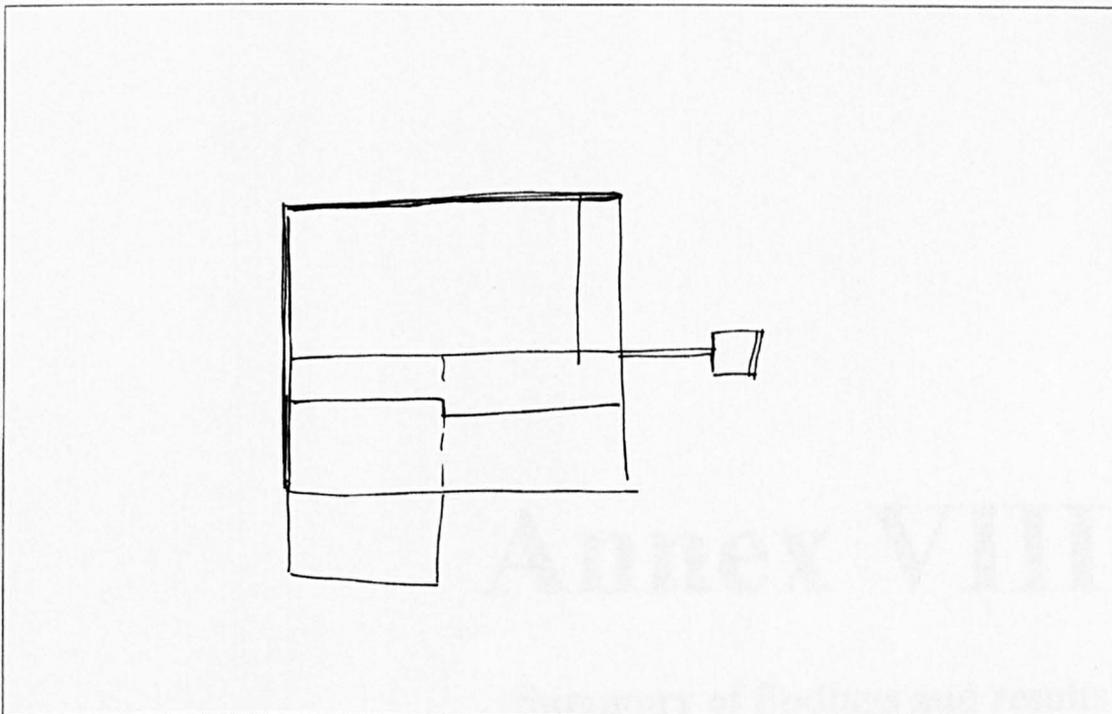
EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n°
30

Description n°
1

EXPERIMENT ON PERCEIVING, REMEMBERING AND DESCRIBING
University of Sheffield – School of Architecture - PhD Architecture – Alexandre Menezes – 2002



Experiment n°
30

Description n°
2

Annex VIII

Summary of findings and results

SUMMARY OF RESULTS

Table VIII.1 presents the summary of the results for First Year group and Table VIII.2 for Diploma Year group.

The first column of the tables informs the session for each group. Second column shows the descriptions and their contents (NA=Non-Architectural sketch and AR=Architectural sketch). The third column is related description times in minutes. The fourth column presents the number of segment for each description. The fifth column informs the number of verbal cognitive actions. They are divided into G=General; F=Features and R=Reflective. The sixth column presents the number of F=Formal and S=Symbolic references. Seventh column shows the easiest image to describe. The last column presents the ranks for the drawings produced.

Table VIII.1: First Year group

Session	Description	Time (Min.)	Number of Segments	Number of Verbal Actions				Formal / Symbolic		Easy	Rank 1 =good 30 =bad
				G	F	R	Total	F	S		
F 1	1 - NA	3.1	43	23	25	3	51	9	16		30
	2 - AR	6.8	74	39	49	2	90	31	18	*	2
F 2	1 - AR	8.6	88	39	56	12	107	53	3		22
	2 - NA	2.4	26	14	20	3	37	5	15	*	11
F 3	1 - NA	9.2	57	33	30	1	64	19	11	-	20
	2 - AR	7.4	60	35	40	5	80	37	3	-	30
F 4	1 - AR	3.4	17	6	13	0	19	4	9		29
	2 - NA	7.1	88	42	59	7	108	36	23	*	23
F 5	1 - NA	1.9	31	14	21	2	37	15	6	-	18
	2 - AR	5.0	70	25	55	4	84	43	12	-	24
F 6	1 - NA	2.5	29	18	12	0	30	2	10	*	22
	2 - AR	3.4	35	16	26	1	43	18	8		23
F 7	1 - AR	5.5	102	58	52	7	117	26	26		16
	2 - NA	7.2	150	95	60	13	168	32	28	*	7
F 8	1 - NA	2.0	31	13	24	4	41	18	6	-	19
	2 - AR	2.7	37	16	25	0	41	23	2	-	27
F 9	1 - AR	3.2	40	20	21	3	44	21	0		7
	2 - NA	4.4	60	39	24	6	69	23	1	*	8
F 10	1 - NA	11.2	163	106	50	27	183	38	12		9
	2 - AR	11.6	153	78	86	16	180	52	34	*	1
F 11	1 - AR	6.0	86	41	52	15	108	40	12	*	6
	2 - NA	7.2	123	69	58	12	139	22	36		3
F 12	1 - NA	6.8	112	65	48	12	125	30	18	-	28
	2 - AR	6.6	116	51	70	15	136	56	14	-	21
F 13	1 - AR	7.7	96	56	55	6	117	29	26	-	28
	2 - NA	6.6	89	48	43	7	98	25	18	-	26
F 14	1 - NA	7.0	112	63	46	8	117	22	24	-	15
	2 - AR	9.8	129	72	66	16	154	42	24	-	14
F 15	1 - AR	3.3	47	25	36	3	64	13	23		4
	2 - NA	4.1	68	43	27	4	74	13	14	*	27

Table VIII.2: Diploma Year group

Session	Description	Time (Min.)	Number of Segments	Verbal Actions				Formal / Symbolic		Easy	Rank 1 =good 30 =bad
				G	F	R	Total	F	S		
D 1	1 - NA	4.4	66	41	37	6	84	18	19		16
	2 - AR	6.0	80	38	54	9	101	37	17	*	18
D 2	1 - AR	3.8	70	35	40	7	82	33	7		5
	2 - NA	4.1	62	36	30	7	72	13	17	*	12
D 3	1 - NA	3.3	45	30	18	0	48	12	6	*	29
	2 - AR	6.6	90	47	48	8	103	35	13		10
D 4	1 - AR	4.2	58	33	27	2	62	14	13	*	20
	2 - NA	7.0	130	74	58	13	145	35	23		10
D 5	1 - NA	2.4	39	30	14	7	51	10	4	*	25
	2 - AR	4.1	81	47	41	9	97	30	11		19
D 6	1 - AR	4.5	97	42	57	18	117	43	14		9
	2 - NA	5.4	141	82	58	11	151	33	25	*	1
D 7	1 - NA	3.7	53	32	19	4	55	13	6	*	4
	2 - AR	5.2	100	48	60	18	126	55	5		11
D 8	1 - AR	1.6	23	8	17	1	26	10	7	*	26
	2 - NA	2.0	30	16	18	1	35	7	11		21
D 9	1 - AR	2.9	52	27	29	0	56	28	1	*	25
	2 - NA	2.5	36	24	14	0	38	11	3		24
D 10	1 - AR	2.1	43	15	28	1	44	4	24		17
	2 - NA	2.1	33	11	20	5	36	7	13	*	17
D 11	1 - NA	5.2	108	62	56	12	130	10	46	*	5
	2 - AR	6.7	139	73	80	13	166	58	22		15
D 12	1 - AR	5.3	82	36	42	14	92	27	15	*	13
	2 - NA	7.5	136	77	57	19	153	32	25		2
D 13	1 - NA	1.7	25	16	9	0	25	7	2	*	14
	2 - AR	3.1	54	34	25	1	60	18	7		8
D 14	1 - AR	17.2	295	130	117	55	302	41	76		3
	2 - NA	11.9	177	93	61	28	182	28	33	*	6
D 15	1 - NA	2.6	31	22	9	2	33	6	3		13
	2 - AR	4.4	62	19	36	1	56	21	15	*	12

Bibliographic References

Bibliographic references

- Alcock, T. (1963). *The Rorschach in Practice* (1 ed. Vol. 1). London: Tavistock Publications.
- Allen, R. (1953). *Introduction to the Rorschach Technique* (1 ed. Vol. 1). New York: International Universities Press.
- Arnheim, R. (1969). *Visual Thinking* (1 ed. Vol. 1). Los Angeles: University of California Press.
- Arnheim, R. (1986). *New essays on the psychology of art* (1 ed. Vol. 1). London: University of California Press, Ltd.
- Bartlett, F. (1950). *Remembering - A study in experimental and social psychology* (2 ed. Vol. 1). London: Cambridge University Press.
- Bartlett, F. (1958). *Thinking - An experimental and social Study* (1 ed. Vol. 1). London: Cambridge University Press.
- Beck, S. (1944). *Rorschach's Test: Basic Processes* (1 ed. Vol. 1). New York: Grune & Stratton.
- Bilda, Z.; Demirkan, H. (2003). An insight on designer's sketching activities in traditional versus digital media. *Design Studies*, 24(1), 27 - 50.
- Britt, D. (1975). *Modern Art: Impressionism to Post-Modernism* (2 ed. Vol. 1). London: Thames and Hudson Ltda.
- Casakin, H.; Goldschmidt, G. (1999). Expertise and the use of visual analogy: implications for design education. *Design Studies*, 20(No 2), 153 - 175.
- Chambers, D.; Reisberg, D. (1985). Can mental images be ambiguous? *Journal of Experimental Psychology: Human Perception and Performance*, 11, 317-328.
- Ching, F. (1996). *Architectural Graphics* (3 ed. Vol. 1). New York: Van Nostrand Reinhold.
- Ching, F. (2003). *Architectural Graphics* (4 ed. Vol. 1). New York: John Wiley and sons, inc.
- Chitham, R. (1980). *Measured Drawing for Architects* (1 ed. Vol. 1). London: The Architectural Press.
- Coxeter, H.; Emmer, M.; Penrose, R.; Teuber, M. (1986). *M.C. Escher - Art and Science* (1 ed. Vol. 1). Amsterdam: Elsevier Science Publisher B.V.
- Cross, N. (1996). *Creativity in design: not leaping but bridging*. Paper presented at the Creativity and cognition 1996, Loughborough.

- Cross, N. (1999). Natural intelligence in design. *Design Studies*, 20(No 1), 25 - 39.
- Dahl, D.; Chattopadhyay, A. (2001). The importance of visualization in concept design. *Design Studies*, 22(No 1), 5 - 26.
- Davies, S. (1995). Effects of concurrent verbalization on design problem solving. *Design Studies*, 16(1), 102 - 116.
- Dondis, D. (1991). *Sintaxe da linguagem visual* (J. L. Camargo, Trans. 1 ed. Vol. 1). Sao Paulo: Martins Fontes.
- Dorst, K. (2003). *Understanding Design* (P. Crabill, Trans. 1 ed. Vol. 1). Amsterdam: BIS Publisher.
- Dorst, K.; Cross, N. (2001). Creativity in the design process: co-evolution of problem-solution. *Design Studies*, 22(No 5), 425 - 437.
- Dorst, K.; Dijkhuis, J. (1995). Comparing paradigms for describing design activity. *Design Studies*, 16(No 2), 261 - 274.
- Doyle, M. (1981). *Colour Drawing* (1 ed. Vol. 1). New York: Van Nostrand Reinhold Company.
- Drexler, A. (1986). *The Mies van der Rohe Archive* (1 ed. Vol. 4). New York: Garland Publishing, Inc.
- Edwards, B. (1981). *Drawing on the right side of the brain* (Vol. 1): Souvenir.
- Ericsson, K.; Simon, H. (1983). *Protocol analysis: verbal reports as data* (revised edn ed. Vol. 1). Cambridge: MIT press.
- Evans, R. (1995). *The projective cast - Architecture and its three geometries* (Vol. 1). London: The Mit Press, Cambridge.
- Evans, R. (1997). *Translations from drawing to building and other essays* (1 ed.). London: Janet Evans and Architectural Publications, London.
- Eysenck, M.; Keane, M. (1999). *Cognitive Psychology* (3 ed. Vol. 1). Hove: Psychology Press Ltd.
- Farrell, T. (1998). *Sketchbook 12.05.98* (1 ed. Vol. 1). Singapore: Angle Publishing Ltda.
- Ferguson, E. (1992). *Engineering and the mind's eye* (1 ed. Vol. 1). Cambridge: MIT Press.
- Fink, R.; Slayton, K. (1988). Explorations of creative visual synthesis in mental imagery. *Memory and Cognition*, 16(3), 252-257.
- Finke, R. (1989). *Principles of mental imagery* (1 ed. Vol. 1). London: The MIT press.

- Fraser, I.; Hemni, R. (1994). *Envisioning Architecture: an analysis of drawing*. New York: Van Nostrand Reinhold.
- Galle, P. (1996). Replication protocol analysis: a method for the study of real-word design thinking. *Design Studies*, 17(2), 181 - 200.
- Garner, S. (2001). Comparing graphic actions between remote and proximal design teams. *Design Studies*, 22(4), 365 - 376.
- Garnham, A.; Oakhill, J. (1996). *Thinking and reasoning* (3 ed. Vol. 1). Oxford: Blackwell Publisher Ltd.
- Gero, J. (1996). Creativity, Emergence and Evolution in Design. *Knowledge-Based Systems*, 9(No 7), 435-448.
- Gero, J.; McNeill, T. (1998). An approach to the analysis of design protocols. *Design Studies*, 19(1), 21 - 61.
- Gilhooly, K. (1996). *Thinking: Directed, Undirected and Creative* (3 ed. Vol. 1). London: Academic Press Limited.
- Goel, V. (1995). *Sketches of thought* (1 ed. Vol. 1). Cambridge: MIT press.
- Goldschmidt, G. (1991). The Dialectics of Sketching. *Creativity Research Journal*, 4(No 2), 123 - 143.
- Goldschmidt, G. (1994). On visual design thinking: the vis kids of architecture. *Design Studies*, 15(No 2), 159 - 174.
- Goldschmidt, G. (1998). Creative Architectural Design: Reference versus Precedence. *Journal of Architectural and Planning Research*, 15(No 3), 258 - 270.
- Gombrich, E. (1982). *The image and the eye* (1 ed. Vol. 1). Oxford: Phaidon Press Limited.
- Gombrich, E. (2002). *Art & Illusion* (6 ed. Vol. 1). New York: Phaidon Press Inc.
- Gombrich, E.; Hchberg, J.; Black, M. (1994). *Art, Perception and Reality* (6 ed. Vol. 1). London: The Johns Hopkins Press Ltd.
- Gordon, I. (1997). *Theories of Visual Perception* (1 ed. Vol. 1). New York: John Wiley & Sons Ltd.
- Gozak, A.; Leoniv, A. (1988). *Ivan Leonidov - The complete works* (C. Cooke, Trans. 1 ed. Vol. 1). London: Academy Editions.
- Gregory, R. (1970). *The intelligent eye* (1 ed. Vol. 1). London: Jarrot and Sons Ltd.
- Gregory, R. (1998). *Eye and Brain: The psychology of seeing* (5 ed. Vol. 1). London: Oxford University Press.

- Gross, M. (1996). The Electronic Cocktail Napkin - a computational environment for working with design diagrams. *Design Studies*, 17(No 1), 53 - 69.
- Gross, M.; Anderson, J.; Fleischer, A. (1988). Constraints: Knowledge representation in Design. *Design Studies*, 9(3), 133-143.
- Herbert, D. (1988). Study drawings in Architectural Design: Their proprieties as a graphic medium. *Journal of Architectural Education*, 41(2), 26 - 38.
- Herbert, D. (1993). *Architectural Study Drawings* (1 ed. Vol. 1). New York: Van Nostrand Reinhold.
- Humphreys, G.; Bruce, V. (1989). *Visual Cognition: Computational, Experimental and Neuropsychological Perspectives* (1 ed. Vol. 1). London: Lawrence Erlbaum Associates Ltd.
- Kavakli, M.; Gero, J. (2001). Sketching as mental imagery processing. *Design Studies*, 22(No 4), 347 - 364.
- Kavakli, M.; Gero, J. (2002). The structure of concurrent cognitive actions: a case study on novice and expert designers. *Design Studies*, 23(No 1), 25 - 40.
- Kavakli, M.; Scrivener, A; Ball, L. (1998). Structure in idea sketching behaviour. *Design Studies*, 19(No 4), 485-517.
- Klatzky, R. (1980). *Human memory: structures and processes* (2 ed. Vol. 1). San Francisco: W. H. Freeman and company.
- Klopfer, B. (1946). *The Rorschach Technique: A Manual for a Projective Method of Personality Diagnosis* (2 ed. Vol. 1). New York: Yonkers on Hudson.
- Kokotovich, V.; Purcell, T. (2000). Mental synthesis and creativity in design: an experimental examination. *Design Studies*, 21(No 5), 437 - 449.
- Kosslyn, S.; Koenig, O. (1992). *Wet mind* (1 ed. Vol. 1). New York: The Free Press.
- Kosslyn, S.; Osherson, D. (1995). *An invitation to cognitive science* (2nd ed. Vol. 2). London: MIT press.
- Kramer, A. (1994, 1994). *Translucent Patches: Dissolving Windows*. Paper presented at the UIST'94, New York.
- Larkin, J.; Simon, H. (1987). Why a diagram is (sometimes) worth ten thousand words. *Cognitive Science*, 11, 65 - 99.
- Lawson, B. (1994). *Design in mind* (1 ed. Vol. 1). Oxford: Architectural Press.
- Lawson, B. (1997a). Book review. *Design Studies*, 18(No 1), 129 - 130.

- Lawson, B. (1997b). *How designers think - The design process demystified* (3 ed. Vol. 1). Oxford: Architectural Press.
- Lawson, B. (2001). *The context of mind*. Paper presented at the Designing in context, Delft.
- Lawson, B. (2003). *Schemata, Gambits and Precedent: Some Factors in Design Expertise*. Paper presented at the Expertise in Design, Sydney, Australia.
- Lawson, B.; Loke, S. (1997). Computers, words and pictures. *Design Studies*, 18(No 2), 171 - 183.
- Lawson, B.; Robertts, S. (1991). Modes and features: the organization of data in CAD supporting the early phases of design. *Design Studies*, 12(No 2), 102 - 108.
- Laxton, M. (1969). *Design education in practice* (1 ed. Vol. 1). London: Lund Humphries.
- Lazzaro, G.; (1957). *Klee: A study of life and work* (1 ed. Vol. 1). London: Thames and Hudson.
- Liddament, T. (2000). The myths of imagery. *Design Studies*, 21(No 6), 589 - 606.
- Liu, Y. (2003). Towards an 'ideal' approach for concept generation. *Design Studies*, 24(4), 341 - 355.
- Liu, Y. (1995). Some phenomena of seeing shapes in design. *Design Studies*, 16(3), 367 - 385.
- Lloyd, P.; Lawson, B.; Scott, P. (1995). Can concurrent verbalization reveal design cognition? *Design Studies*, 16(2), 237 - 259.
- Marzillier, L. (1990). *Elementary Statistic* (1 ed. Vol. 1). Los Angeles: Wm. Brown publishers.
- McGown, A.; Green, G.; Rodgers, P. (1998). Visible ideas: information patterns of conceptual sketches activity. *Design Studies*, 19(No 4), 431 - 453.
- McHugh, R. (1977). *Working Drawing Handbook - A Guide for Architects and Builders* (1 ed. Vol. 1). New York: Van Nostrand Reinhold.
- Menezes, A. (1996). *Desenho Projetivo* (2 ed., Vol. 1, pp. 92). Universidade Federal de Minas Gerais - UFMG: Escola de Arquitetura - EA.UFMG.
- Meniru, K.; Bedard, C. (2003). Specifications for computer-aided conceptual building design. *Design Studies*, 24(1), 51 - 71.
- Miller, G. (1956). The magical number seven, plus or minus two: some limits on our capacity for processing information. *Psychological Review*, 63, 81 - 97.
- Mills, E. (1953). *Architect's Detail sheets* (2 ed. Vol. 1). London: Liffé and Sons Ltd.

- Muller, W. (1989). Design discipline and the significance of visual-spatial thinking. *Design Studies*, 10(1), 12 - 23.
- Nakayama, K.; Zijiang, J.; Shimojo, S. (1995). Visual surface representation: A critical link between lower-level and higher-level vision. In S. M. a. O. Kosslyn, Daniel N. (Ed.), *Visual Cognition: An invitation to cognitive science* (2 ed., Vol. 2, pp. 1 - 70). London: MIT press.
- Osherson, D.; Smith, E. (1990). *Thinking* (2 ed. Vol. 3). London: The MIT press.
- Ostrower, F. (1983). *Universos da Arte* (8 ed. Vol. 1). Rio de Janeiro: Editora Campus Ltda.
- Ostrower, F. (1998). *A sensibilidade do Intelecto* (1 ed. Vol. 1). Rio de Janeiro: Editora Campus Ltda.
- Oxman, R. (1997). Design by re-representation: a model of visual reasoning in design. *Design Studies*, 18(No 4), 329-347.
- Oxman, R. (2002). The thinking eye: visual re-cognition in design emergence. *Design Studies*, 23(No 2), 135 - 164.
- Perez-Gomez, A.; Pelletier, L. (1997). *Architectural representation and the perspective hinge* (1 ed. Vol. 1). London: The MIT Press.
- Pinker, S. (1985). *Visual Cognition* (1 ed. Vol. 1). Amsterdam: MIT press.
- Pinker, S. (1997). *How the mind works* (1 ed. Vol. 1). London: Penguin Books.
- Porter, T. (1990). *Graphic Design Techniques for Architectural Drawing* (1 ed. Vol. 1). New York: Van Nostrand Reinhold.
- Porter, T.; Goodman, S. (1985). *Manual of Graphic Techniques 4* (1 ed. Vol. 4). London: Astragal Books.
- Porter, T.; Goodman, S. (1991). *Design Drawing Technique* (1 ed. Vol. 1). London: Macmillan Publishing Company.
- Porter, T.; Goodman, S. (1980). *Manual of Graphic Techniques for Architects, Graphic Designers and Artists*. London: Astragal.
- Porter, T.; Goodman, S. (1983). *Manual of Graphics Techniques 3 for Architects, Graphic Designers and Artists*. (Vol. 3). London: Astragal.
- Porter, T.; Goodman, S. (2003). *Architectural Graphics* (4 ed. Vol. 1). New York: John Wiley and sons, Inc.
- Potter, M. (1990). Remembering. In D. N. a. S. Osherson, Edward E. (Ed.), *Thinking: An invitation to cognitive science* (2 ed., Vol. 3, pp. 3 - 32). London: MIT Press.

- Purcell, A.; Gero, J. (1998). Drawing and design Process. *Design Studies*, 19(No 4), 389 - 430.
- Reed, S. (1974). Structural descriptions and the limitation of visual images. *Memory and Cognition*, 2, 329 - 336.
- Robbins, E. (1994). *Why Architects Draw* (1 ed. Vol. 1). Massachusetts: The MIT Press.
- Robertson, I. (2002). *The mind's eye* (1 ed. Vol. 1). London: Bantam Press.
- Rodgers, P.; Green, G. and McGown, A. (2000). Using concepts sketches to track design progress. *Design Studies*, 21(5), 451 - 464.
- Schon, D. (1983). *The Reflective Practitioner: How Professionals Think in Action*. London: Temple Smith.
- Schon, D. (1988). *Educating the Reflective Practitioner: Toward a new design for teaching and learning in the professions*. San Francisco: Jossey Bass.
- Schon, D.; Wiggins, G. (1992). Kinds of seeing and their function in designing. *Design Studies*, 13(No 2), 135-156.
- Scrivener, S. (2000). Uncertainty and sketching behaviour. *Design Studies*, 21(5), 465 - 481.
- Siegel, S. (1956). *Nonparametric statistic for the behavioural science* (1 ed. Vol. 1). London: McGraw-Hill Book Company.
- Simon, H. (1973). The structure of ill-structured problems. *Artificial Intelligence*, 4, 181 / 201.
- Soleri, P. (1971). *The sketchbook of Paolo Soleri* (1 ed. Vol. 1). Massachusetts: MIT Press.
- Styles, K. (1995). *Working Drawing Handbook* (3 ed. Vol. 1). London: Butterworth Architecture.
- Suwa, M., Gero, J.; Purcell, T. (2000). Unexpected discoveries and S-invention of design requirements: important vehicles for a design process. *Design Studies*, 21(No 6), 539 - 567.
- Suwa, M.; Tversky, B. (1997). What do architects and students perceive in their design sketches? A protocol analysis. *Design Studies*, 18(No 4), 385 - 403.
- Suwa, M.; Purcell, T.; Gero, J. (1998). Macroscopic analysis of design process based on a scheme for coding designers' cognitive actions. *Design Studies*, 19(No 4), 455-483.
- Szalapaj, P. (2001). *CAD Principles for Architectural Design* (1 ed. Vol. 1). Oxford: Architectural Press.

- Tovey, M. (1984). Designing with both halves of the brain. *Design Studies*, 5(No 4), 219 - 228.
- Tovey, M. (1989). Drawing and CAD in industrial design. *Design Studies*, 10(1), 24 - 39.
- Tovey, M. (1997). Styling and design: intuition and analysis in industrial design. *Design Studies*, 18(No 1), 5 - 31.
- Tovey, M.; Porter, S.; Newman, R. (2003). Sketching, concept development and automotive design. *Design Studies*, 24(2), 135 - 153.
- Van der Lugt, R. (2000). Developing a graphic tool for creative problem solving in design groups. *Design Studies*, 21(5), 505 - 522.
- Van Dijk, C. (1995). New insights in computer-aided conceptual design. *Design Studies*, 16(No 1), 62 - 80.
- Van Sommers, P. (1984). *Drawing and cognition* (Vol. 1). Cambridge: Cambridge University.
- Verstijnen, I.; Hennessey, J.; Leeuwen, C.; Hamel; Goldschmidt, G. (1998). Sketching and creative discovery. *Design Studies*, 19(No 4), 519 - 546.
- Yi-Luen Do, E. (2000). Intentions in and relations among design drawings. *Design Studies*, 21(5), 483 - 503.