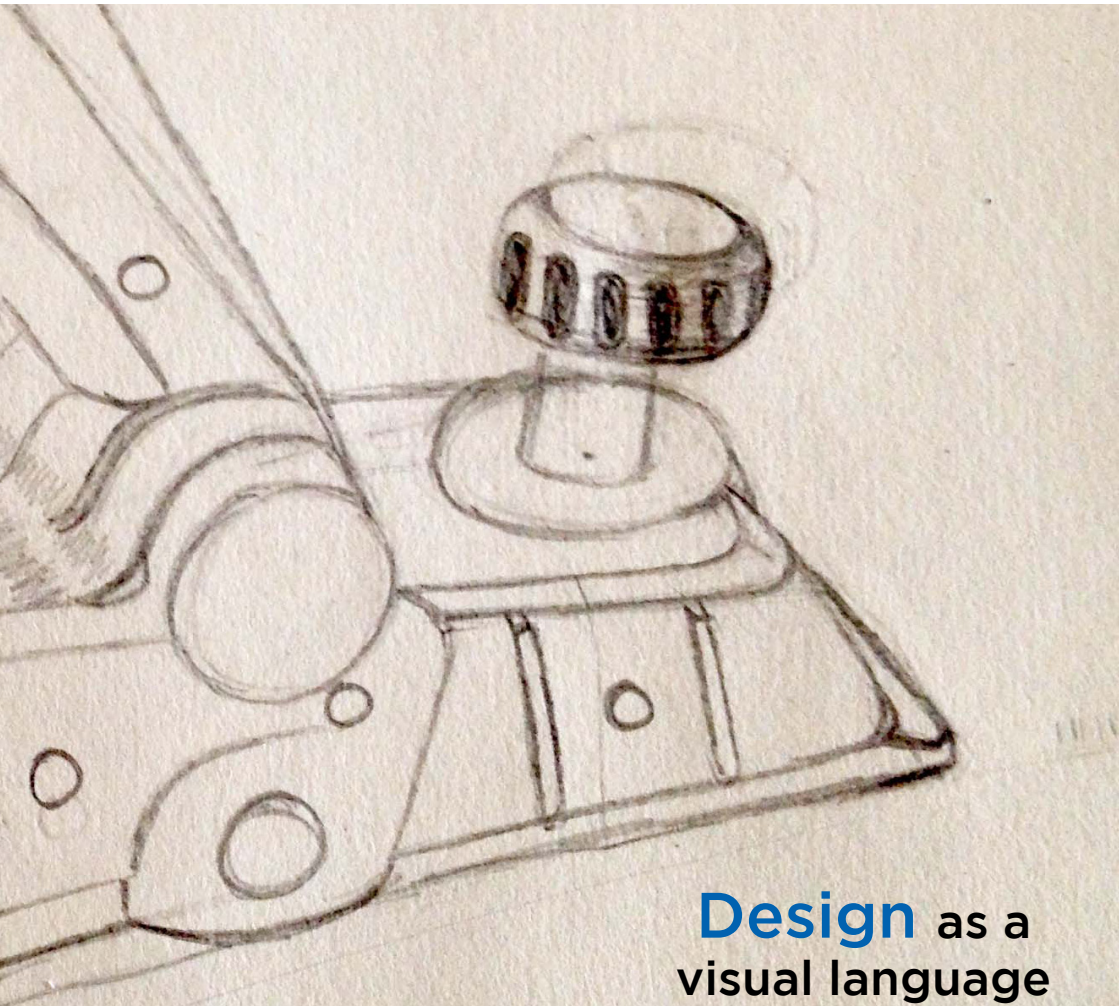




GENESIS
GLOBAL SCHOOL

COURTING SPACE

Magazine - Design and Technology (D&T 0445) - 2015



Design as a
visual language



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Annual Report 2015

Publication of Genesis Global School

The Cambridge IGCSE Design and Technology Syllabus:

Enables candidates to identify, consider and solve problems through creative thinking, planning and design, and by working with different media, materials and tools.

Candidates gain technical and design awareness as a result, and develop skills such as initiative, resourcefulness, enquiry and ingenuity. They also develop the communication skills central to design making and evaluation.

Cambridge IGCSE Design and Technology provides an ideal basis for further study, and prepares students for their future within a rapidly changing technological society.

Product Design @ Genesis Global School:

Definition: The detailed specification of a manufactured item's parts and their relationship to the whole. A product design needs to take into account how the item will perform its intended functionality in an efficient, safe and reliable manner. The product also needs to be capable of being made economically and to be attractive to targeted consumers.

Description: It is the process of creating a new product to be sold by a business to its customers. A very broad concept, it is essentially the efficient and effective generation and development of ideas through a process that leads to new products that are developed for a need.

In a systematic approach, product design students conceptualize and evaluate ideas, turning them into tangible products. Their role is to combine art, mathematics, science, and technology to create new products that people can use. Their evolving role has been facilitated by digital tools that now allow students & designers to communicate, visualize, analyze and actually develop ideas into functional products

Example: Have you ever been with a group of friends on a Friday night and decided to order pizzas? One person wants pizza from Pizza Hut because he likes the taste of stuffed-crust pizza made with cheese in the crust. Someone else wants Domino's pizza because she likes the unique crispy thin crust. A third wants pizza from Pizza Square because of the wood grilled oven taste, and there might be someone who just doesn't want to have pizza but would prefer an Italian BMT from Subway!

Even a simple product like a food item can have different features unique to its producer. Different customers have different tastes, preferences, and product needs and the variety of product designs on the market appeals to the preferences of a particular customer group.

This is what product design is all about. Design can cater to just one individual if only his or her needs are considered. And when we find a common need that caters to a large number of people, that is when our design is considered a Universal Design.

Why should I chose D & T?

Within a rapidly changing technological society, inspiration of design is located all around us. By manipulating mathematical shapes, natural forms, colour, texture, scientific technologies and function of materials fresh products can evolve. Design and Technology fosters individual flair, creativity and the ability to innovate by encouraging initiative, self-motivation and a spirit of enterprise. It enables students to confidently organise, identify, consider and solve problems independently through creative thinking, idea generation, planning and manufacturing.

Course content

Product Design, Materials and Graphics:

- Aesthetics (Form, Function, colour, shape, texture)
- Technical drawing – Isometric, Orthographic projection, Geometry
- Environmental considerations for sustainable design.
- Computer Aided Design (CAD) and it's relevance today.
- Planning for production (Accurate measurements, constructing prototypes – testing).
- Safe and effective application of tools within the workshop studio.
- Manufacturing techniques with a variety of materials (Wood, Metal, Plastics and Paper).
- Joining and finishing processes.
- Performing conclusive evaluations in order to establish imaginative modifications.

The Design Process: It is the umbrella for conjuring fascinating design solutions. At Genesis Global School we guide & hone our students to:

1. Identify a Need= Identify a Need or Purpose in a given situation.
2. Research= Identify and collate information relevant to the need.
3. Specification= Produce a list of requirements found from research relevant to the Brief.
4. Design Brief= Produce a short Design Brief.
5. Generate Ideas= A range of different possible solutions satisfying the Specification & the design brief.
6. Choose Solution= Propose a solution using the Specification and your Generated Ideas.
7. Develop Solution= Generate details necessary to make the solution.
8. Plan for Production= Find relevant tooling methods, materials and processes to draw a systematic flow of product realisation.
9. Testing and Evaluating= Test the developed product against the Design Brief & the Specifications. List modifications to improve the solution's effectiveness.

How will I learn?

- You will creatively learn individually, in teams and as a whole class, via theory and mostly by doing.
- Class led and independent homework enquiries.
- You must not force it upon you but make it a habit so as to make the best of it.
- You will need to come out of your comfort zone, to try something new and in the process learn something different.
- You will be given stimulating project briefs that are challenging for you for which you must not only give “out of the box” solutions but also keep in mind their relevance to a need and functionality.
- Your needs in Design and Technology will be assessed regularly and you will focus on these needs until you are proficient in them.

How will I be assessed?

Paper 1: Product Design (1 hour 15 minutes) (25% of final mark)

This compulsory question paper tests Part 1 of the syllabus. Candidates answer one of three open-ended questions which assess their abilities of analysis and synthesis. The range of questions will reflect the breadth of optional content.

Paper 2: Graphic products (1 hour) (25% of final mark)

Paper 5: Coursework project (50% of final mark)

Each candidate must complete an individual project which candidates usually work on over the final two terms of the course. The project is internally marked and externally moderated. Candidates produce work in the form of an A3-size portfolio folder and the ‘made product’. The folder must include sufficient photographic evidence of the made product, showing an overall view together with detailed views of evidence which support the award of marks for assessment criterion 6 ‘Product realisation’.

Post IGCSE Opportunities:

A Level – IB, Design and Technology

University – Post Graduate study

Some careers in which knowledge of Design and Technology would be useful:

Product Design	Interior Design	Fashion Design
Graphic Design	ICT: sales and technical support	Construction
Engineering	Architecture	Marketing
Computer developer	Special effects	Teacher

In the following pages we will be sharing “the Language of Design” through the various works of our students, and how their shared creativity has influenced each individual to understand the various subjects better. We will also be sharing what this subject offers to the students along with how it is being taken forward at Genesis Global School.





The Language of Design

Unlike English, or Hindi or all those 6500 languages spoken in the world, Design also has a language. In the following text we will try to define some basic terminology essential to the understanding of the visual language.

The phrase visual language refers to the idea that communication occurs through visual symbols, as opposed to verbal symbols, or words. Words are also symbols. It is a way to communicate one's expression and to help the listener/reader through their imagination to convey a message.

Those who understand nonverbal, especially visual language can and do manipulate our attitudes to suit their purposes. Yet often we respond to visual messages unconsciously, preferring to believe that our opinions are formed by our own good judgement and personal taste. Therefore we may fail to recognize that visual signals may affect our opinions about society and values, or even our preferences in products or fashion.

For example, the body language, dress, and expressions of an individual often seem to be as crucial to the success of her or his way of communicating as the ideas she or he holds. The wrong nonverbal signals we simply do not trust or at times even unconsciously ignore.

We will look at the elements of design, or the components which form the structure of a product and will consider the design principles, the concepts used to organize the structural elements through the works of our students and teachers. The principles and elements of design are the basic building blocks of visual composition, and in order to understand how visual images carry meaning, we need to understand this basic vocabulary of visual language.

The nonverbal symbols that we respond to as signs or messages, though often without realizing exactly what it is that has caused us to reach a certain conclusion. These symbols are often visual, though they can be auditory or even tactile. For example, the power of music as a non-verbal, auditory language is very apparent. In this issue we are going to concentrate on those nonverbal symbols that reach us through our senses and satisfy our needs through their functions.

Visual Communication & its relevance to Design as a Language

Every community requires a language, it could be written, spoken or both. However, every language needn't have a specific script. People create and communicate through visual means to shape the everyday quality of life for individuals, communities and societies. Visual language can be used to convey thoughts and information in the fields of communication, environmental and industrial design.

In today's world where almost everything is sorted out into two categories; materialistic asset or useless waste, the importance of the tangibility of a substance is increasing by each passing day. Visual Communication involves acquiring and applying design thinking skills as well as drawing skills to make messages, ideas and concepts visible and tangible to a larger audience. It is said 'Jo dikhta hai woh hi bikta hai' which means that, for anything to be sold it has to be seen. This 'anything' could range from an idea to a beautiful product shaped out of the idea. Therefore, it is extremely important to convey whatever is in one's head to the other person as accurately as possible and visual communication is a great medium to transfer a design from one desk to another.

So, now that we know WHY visual communications, let us move to HOW visual communications. Visual communication is the exchange of ideas through a visual display of images. This is primarily associated with 2D images and 3D models, it includes: art, signs, photography, typography, drawing fundamentals, color and electronic resources. The Eye of Horus is said to be the symbol of visual communication, it is said to be the representation of an eclipse, as the corona around the pupil is around the sun during solar eclipse. Now, we think deeply about the last sentence, it reads 'symbol of visual communication', isn't this fascinating?!!

One of the major examples of visual communications as a language in relation to design is advertisements. A lot of us buy merchandise online or buy products based on what we see on television. These are representations of designs that are shown to people through an electronic media. Therefore, in the field of design and planning, if words are a Maruti 800 then, visual communications are an Audi R8 and that too a convertible one!

Anandita Pavagadhi
Class 12A

Amidst of expressions

It is the wild imagination
That is put on the blank paper.
It is the art that cannot be gained
But only earned from within.
Our lives are destined,
But it is the expressions that
Make it worthwhile.

The art of invention is
A reflection of our existence.
It's a gift to humanity,
It is freedom,
It is compassion with no laws
And rules to follow.
It teaches us patience,
It expresses our emotions.
It is what's on our minds
There is no wrong,
There is no right.

It is simply the reflection
Of heart portrayed in a real life.

Graffiti: An art of expression?

'Graffiti is one of the few tools you have if you have almost nothing. And even if you don't come up with a picture to cure world poverty you can make someone smile while they're having a piss.'

Graffiti is much more than some random art. It has served as a medium of expression in many ghettos. Perhaps the most powerful thing about graffiti is that it is able to evoke emotions. Well graffiti is known to be a negative or rather an 'uncivilised' form of art. It is because some people might consider graffiti as offensive. In an age of sophistication, people tend to condemn the vandals. But that totally depends on one's perception. Graffiti can be taken as a form of visual art and art has no specific meaning. A simple drawing can be interpreted in various forms.

Graffiti can be enigmatic sometimes. Being so easily visible to the outside world, people from different backgrounds might not be able to relate with a particular art. Having said that, one also needs to understand that graffiti can be very eloquent to people who come from the same background or for those who share a common interest. Although drawing on public property is illegal, the government must try to promote such an art by allotting certain areas wherein the armature artists or vandals, as one would say it, can express their motifs and enhance their skills. A positive graffiti, even if it is a simple logo of Superman, can be used to enlighten the feeling on hope and stability among the common masses. A random drawing of Batman on a dull wall will enhance the beauty of the area and it might give someone the courage to carry on with his life and reach his highest potential. Such things act as a constant reminder.

Graffiti is one of the purest form of art because it comes from the heart and no one forces you to do it. It unites those who think alike and it is a convenient way of expressing ones opinion and beliefs. Nevertheless if one is good at making graffiti; he will never have a problem in painting his fence!

Performing Arts and the Language of Design

To start with, let's look at what is design. Design has copious definitions, for it can be termed as a decorative aspect of an idea, a way of doing or making some thing work, it can be the composition of features with a motive or an objective. To be honest, it's hard to define 'design' in simple words. For all I know, design could be EVERYWHERE. Look around, is there anything with the 'design aspect' absent? Design makes things easier for people. For example even a pen is designed in a manner which makes it easier for us to hold it.

Similarly music is all around us, but for us to identify what appeals to us may be different. I might like rock while someone else may like classical and you may enjoy jazz. These are different ways for us to understand, enjoy and express. Thus it is as universal. Poetry for example is also a way for us to express how we feel. We may use words for it or colours to our 'composition', without actually realising that each piece has been carefully designed.

Design and Art go in unison so it won't be a surprise if one talked about design language used in performing arts. Be it the lighting aspect, or the choreography, or the composition, the deco, the interior designing of the space or the acoustics, they are thought and designed to cater a larger market. Thus becoming universal in thinking and practice. In performing arts various elements of design are put together to create a fine piece. In theatre, for example, the lighting is modified to give dramatic effects and to visually communicate in a specific way. For example, if the stage has red lighting we connect it with anger, rage or passion. Also, costumes are designed in a manner to give us an idea about the character being personified. The stage also plays a huge part in defining the dramatic theatre art using design.

Design plays a major role in the demeanour of a dance performance. The props used, effects created using smoke, the movement of the dancers, all enhance the dance movement and performance and all are elements of design used to influence the overall experience of the audience. While performing, every object, the tunes, the backdrop, the dancers, are all placed strategically on the stage. In performing arts all the elements work together to create a beautiful composition which touches the hearts of many. Even sounds are 'designed' to give a certain experience, to understand this try watching a scary movie with

muted sound which is no fun at all. (I have tried, it actually gets funny). Infact if you put your own beat or tune to the muted video it might even change the mood of the video!

Music is just another form of art, so is composing it. Music is not just a collection of notes put in a hat and shuffled but is a systematic representation. A composer uses notations, each having its own meaning and each being a design element. Just as typographic styles we have musical notes. Let's take musical instruments as another example, each of them has a different design to give out different sounds and vibrations. When a string of a guitar is struck, the sound is projected by the sound hole and the body of the guitar then amplifies the sound, so it is designed in a way for this to happen. Just so, different instruments are designed in ways to produce music.

Design is a vital element in art as well as our everyday life. It is something which not always appears to be there, something as simple as a spoon has a design, which is the reason we forget to acknowledge it in better ways. We ought to be curious about things and why they are just so, so that we can make useful products for a purpose rather than just for the sake of it.

Design Language: Packaging & Product Graphics

Product Design and Packaging facilitates itself as a mode of communication that speaks with the consumer. Manufacturers spend more and more on packaging and graphics because of its ability to represent a product for itself. However, over the years, design has evolved into what it has become today. Adolf Loos, 19th century Architect and Design theorist wrote “Ornament and Crime”, a revolutionary essay that challenged the process of design process involved with early-20th century industrial manufacturing. He argued for a more modern approach to design and implied to communicate to the people with product design and graphics. However, he wasn’t the first to contend to the theory of design respective to his time. Famous 12th century mathematician “Fibonacci” came with the “Fibonacci Sequence”, in which each number would be the addition of its two formers in the sequence. Now while it does not sound relevant to design, it led to what is now known as the “Golden Ratio”. The Golden Ratio design technique is used by major corporations like Apple for their logos. It aims to help the Illustrator achieve a clean yet appealing design. These non-conventional approaches became part of a theoretical rulebook to help create graphics for the better.

As aforementioned, modern manufacturers spend a lot on packaging and design as it helps communicate to a potential buyer. In today’s social stratum, a consumer can come across many variations of a specific product. However, elements such as the packaging can speak a lot about the company and significantly sway the consumer’s opinion about the product. Many factors can come into play when taking in product packaging into consideration. The size, shape, material and texture of the packaging all comes down to its design to help best communicate the product to a consumer. Successful use of this can be seen in products such as the “Beats” line, where the company often spends more on the packaging than the actual product itself. Yet, their product is one of the most sought after in the industry today. This use of product packaging not only helped the aesthetic outlook of the product but was used as a marketing strategy to help sell the product, but even more important than the exterior aesthetic is the interior. This is because it must be protective yet easy to work around. A common method used is of layers, which make it easy to maneuver the pieces. Design techniques used in product packaging help communicate more about the product along with showcasing a delightful composition.

Design Language in Games and Character Design

It can be argued that design, through its visual medium of communication, is a language. Idea and concepts are portrayed by way of sketches and drawings to others. Videogames use graphics and character design in a similar fashion; to portray ideas to the player. Examples of some well-known characters include Princess Peach, Aiden Pierce from Watch Dogs, and Slenderman. They are all designed in accordance with their character so as to give the player a better understanding of what that character stands for. It also serves to give them a unique individual personality in the game.

Starting with Princess Peach, the damsel in distress from the iconic Mario games; she is easily recognizable by her trademark pink dress and tiara. She is designed in a typical feminine fashion because it is suited best for her role. The pink dress goes to show the femininity of her character since pink is a color normally associated with girls/women. And why shouldn't it? She is the end goal in the Mario games. The typical damsel in distress who needs saving. So as such she is designed accordingly. Even the tiara goes to demonstrate a hint of royal origins further enhancing her character.

Moving on, we have Aiden Pearce from Watch Dogs, who is a grey hat "hacker" terrorizing the streets of Chicago, or so the media would have you think. To that extent he is depicted properly. He wears a black cap and a mask that covers the lower half of his face. Already he isn't looking like the friendliest of individuals. Next is his knee length trench coat. Nearly every 'hacker' in today's movies is seen with one. Even Neo from the The Matrix wore one. Aiden is obviously not a friendly character and his character portrays that quite clearly. One could even call him 'shady' no matter how noble his cause may be.

Finally, we have the infamous Slenderman. He appears in the games 'Slender: The Eight Pages' and 'Slender: The Arrival', both of which are horror games with Slenderman being the focus of them. He is depicted as an unreasonably tall man in a suit with thin arms and a blank, white face. Featureless even. So because of this it is hard to recognize him especially when he is at the edge of your vision and even then he is dressed in a dark suit so it's difficult to make out more than his face which as stated previously is blank, featureless and white. So when one does see him they have a tendency to be scared; as they should seeing as that was the intention all along.

Design Language of the Culinary Art

Culinary arts refers to the art of preparation and presentation of food. When we like the way many elements are combined together in a single display, we use a variety of words to describe the effect: simple, elegant, balanced, integrated, unified, organic, or even synergistic. The banquet chef's task is to exploit the full sensory potential of every dish to create a presentation that is practical, functional, and appealing to all the senses. Planning a design that enhances food presentation is an important way to highlight the work of the garde manger and to benefit from the special skills that go into planning and producing a unified, thematic, and successful buffet. Planning a design before arranging a spread will greatly enhance the visual appeal and practicality of a buffet presentation

Enhanced food presentations integrate all aspects of the buffet, including the theme, the menu, the style of service, and your clients' expectations. The goal is never to simply meet those expectations and standards, but to exceed them. A well thought-out and executed plan is a distinct advantage in any successful buffet. It is important to remember and always think of these techniques as enhancements to the food's appeal; the real importance and focus of the food should always lie, ultimately, in its flavour and texture

Another very important feature of a good eatery or restaurant is its ambience. You might walk into a room full of tables and chairs but the important role played by design is the lighting or the flower presentation or even the layout of tables and chairs could leave you in complete awe of a simple scenery. One would, without a doubt be attracted to an eatery which has a location and ambience to offer. The evolution of various culinary instruments have really enhanced the quality of food and made it time efficient which has resulted in massive benefits. Now we have a pasta maker to flat out our dough instead of continuously rolling it out. Even the process of kneading the dough has been brought down to the use mixers. Therefore the development presented by the design technology has resulted towards enormous benefits.

Culinary and design technology are indeed very closely related. Design technology enhances and complements the culinary arts in the best way possible. The presentation of the food is yet one of the most important root of the hotel industry. The customer might not be very satisfied to see an average looking dish. If one is served noodles

on a plate with a fork compared to the same dish on a silverware with chopsticks and alongside a fancy display of Chinese sauces, the customer would defiantly be delighted with the presentation.

The design principles at the chef's disposal include symmetrical or asymmetrical compositions, contrasting or complementary arrangements, and the use of lines to create patterns or indicate motion. In creating a balanced presentation, be sure to also take into consideration the accessibility of each item to be placed on the platter. Place larger items in the rear and lower items in front. Items such as sauce boats should be kept in an area that does not disturb the design, but allows the guest easy access.

As a kid, I loved to dabble on a blank canvas. The canvas, void of any pre-determined shapes, gave me the freedom to create anything I believed in using any shade I want. I experienced the same feelings only in greater depths when I entered my mother's kitchen. The reason I applied to Le Cordon Bleu is because food inspires me. Food to me is a source of expression and if you have the same amount of love or passion for food then this should be the best career option for you.

The kitchen was always an indoor playground. I invariably found myself experimenting with different food combinations and continually propelling my mind to create various elements of a dish using unusual techniques. The appreciation of people brought the realization that creating food not only gave me thorough enjoyment, it brought satisfaction and a smile to people's faces. From that moment on I knew that I'd be content only in a chef's attire.

My utmost culinary goal is to run a multi-continental line of patisseries serving supremely refined delicacies. In the process of becoming a professional pâtissier, I want to learn under the guidance of world's best culinarians, practice in the most dynamic and progressive restaurants, carve a niche for myself and create a benchmark in the culinary world. Throughout this journey, I wish to constantly hone my cooking skills by attaining immense exposure of working with diverse ingredients, to broaden my range of perception by experiencing different cultures to develop an evolved global palette and to grasp their traditional and modern techniques of cooking, all of which, will expand my potential to create innovative dishes and improvise on classic food combinations.

Radhika Khanna
Graduating Batch of 2015

Sketching as a Design Language

There are a countless number of languages in the world, and among them is the visual language. Similar to all languages this style is also used to communicate one's expressions. And one major way to communicate here is through drawing and sketching. We use a pencil, but it doesn't mean that our work is any less clearer than a piece of writing or a speech. As the saying goes, a picture is worth a thousand words.

Everybody has their own form of communication. While some people like to write or talk about their feelings, others like to express themselves through shapes, and colours. When we have an idea in mind, or we see something interesting, we can sketch it out, and we'll have it forever. We can use this to continuously evolve and improve on our creations. These iterations also show our progress. When we develop an idea into a tactile product, the first and most basic thing to start off with is sketching. Sketching helps us identify the requirements and build a primary draft. Based on this we can always elaborate and improve our thought process and finally our designed product.

Communicating through this form of art is a great way to make a point or to emphasize on a certain situation. At times, it can be best to express ourselves and let our emotions out. It is also a way to manipulate our thoughts. Sketching is also quite important as it can be interpreted in so many different ways. What you draw and what you see is not just a single emotion or feeling, but rather a combination which varies from person to person. With sketching, the details can give a perception of your views or sentiments.

Sketching can also relieve stress. When somebody feels stressed out or frustrated, we can draw to let out our pain and flush out negativity from our mind and can bring positive feelings back into our systems.

When Van Gogh was a student in London, studying to be a clergyman, he didn't imagine that he would ever become an artist. One day, he sat down to write a letter to his younger brother. He looked out his window and saw a watery twilight with a bright star shining, and he admired the beauty of the scene. He wanted to show his brother how amazing it looked, so on his ruled note paper he sketched out the most lovely and tender scene. That's the thing you realize- sketching is for everyone, and it is an amazing form of expression.

Pallavi Sethi
Class 10 IGCSE

Safety Procedures in the Design Lab

The Design Lab has been set up to encourage all those students who have a creative talent and wish to transform their ideas from thoughts into sketches and finally into working mockups.

By the same standard we also discourage students from taking up DT just because their friends have opted for it, as this causes disruption of the act of creation.

In order to make the work in DT pleasurable, flexible, and safe, we offer a lot of new machines along with power tools and hand tools to the students. As we move up the class order the accessibility of the machines to the students also increases.

Every student has to be comfortable with the machines and is not allowed to use them without the basic knowledge. For a few complex machines, either the student works under guidance or the faculty assists the student.

There are a large number of windows in the Design Lab that provide for good ventilation as well as sunlight, and the Lab is well illuminated. A 2 HP dust collector has been installed to keep the air dust free and is linked to the exhaust system.

At the same time some basic safety procedures must be followed by every student:

- Class 9 and 10 IGCSE students have been provided with files for their daily work and these must be kept in their respective cabinets along with their projects.
- Ample storage for both tools and materials has been provided and these should be well maintained and kept in their proper place after completion of work.
- Gloves and eye protectors must be worn when working with materials to prevent any mishap.
- Students must also wear nose masks or tie a wet handkerchief around their faces during machine use.
- Emergency eye wash and hand wash with a first aid kit is provided in case of any mishap and will be used under the guidance of faculty.
- Every individual in the Design Lab MUST be respected and treated with due dignity and care.
- Wastage/Disrespect of any sort will lead to the student being asked to choose another subject of interest.

Understanding Materials, Tools, Machines and Model

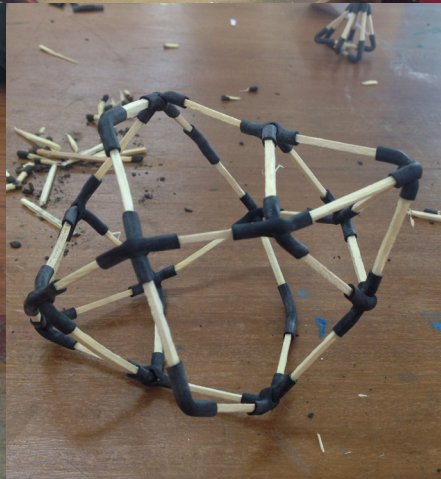
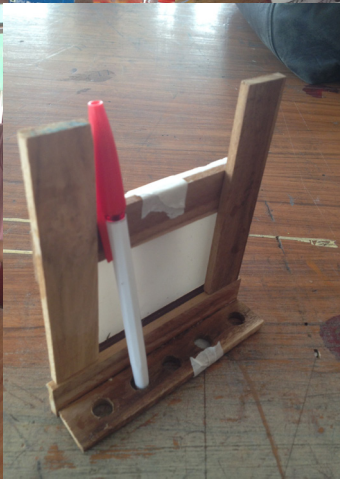
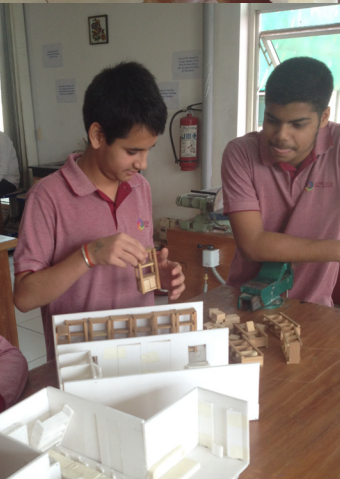
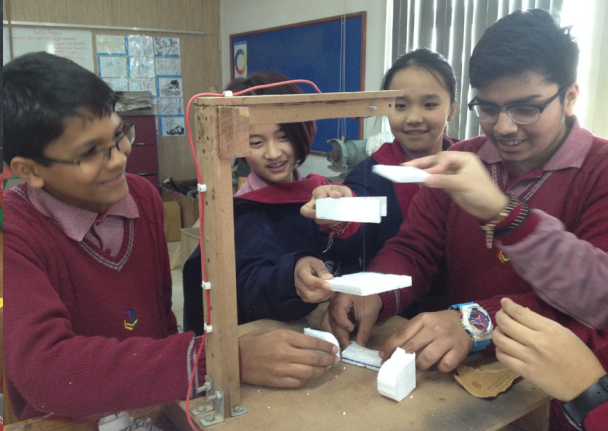
making is the art of creating copies of objects that are either smaller or larger than the objects they represent; is not only an enjoyable and educational hobby: it is widely used in the professional world for such things as creating special effects for movies, developing plans for buildings, and designing automobiles and airplanes.

Along with being able to define and communicate one's idea on to paper through the medium of sketching, building prototypes and model making is an essential component of any design activity. Modern product development is a multi-disciplinary effort that relies on prototyping in order to explore new ideas and testing them sufficiently before they become actual products.

Prototyping and Modelmaking for Product Design illustrates how prototypes are used to help designers understand problems better, explore more imaginative solutions, investigate human interaction more fully and test functionality so as to de-risk the design process. Following an introduction on the purpose of prototyping, specific materials, tools and techniques are examined in detail, with step-by-step tutorials and industry examples of real and successful products illustrating how prototypes are used to help solve design problems. Workflow is also discussed, using a mixture of hands-on and visualisation skills.

While understanding materials, tools and machines is emphasised, we also encourage the students to find ways to change the current properties of a material by understanding its limitations as well as advantages. While doing so we do ask the students to not only play with the materials to their fullest but also, in turn, respect the tools, materials and machines around them to build a safe yet challenging environment for all individuals. This not only helps the students to understand alternatives to a solution but also helps them identify needs against wants







Factory Visits:

The aim is to align the formal definition of industrial design with modern practices and clarify the contribution of design students to innovation. As part of this clarity drive, and to help the students understand the various processes of production, we at Genesis Global School, with the help of the parent body, took our Design and Technology Batches of IGCSE Class Xth (Old and New) to Moradabad, to see and experience first hand inputs on how various metal processes happen. The parents involved had also prepared a small tour for the students to not only show them how a variety of processes happen but also to answer their queries.

In Moradabad, the students visited 3 different factories to understand the metal processes thoroughly. Mr. Hemant Juneja (father of Parth Juneja), Mr Arshu Dhall (father of Keshav Dhall) and Mr Vinay Rawal (father of Suvansh Rawal) had volunteered to be a part of this project and helped us get a hands-on experience on a variety of processes along with answering a lot of queries.

Wazirchand Exports (Mr Arshu Dhall): is one of the largest manufacturers of Dog Bowls in the world. Here students were able to see the stamping process done on Stainless Steel along with finishing.

Manjushree Exports (Mr Vinay Rawal): specialises in Kitchen and Garden related Décor products. They also work with a combination of metal & textile products.

Oliver McInroy & Co. (Mr Hemant Juneja): specialise in Accent Furniture and Lighting made of brass, stainless steel, mild steel and aluminium. The students witnessed various processes like welding and brazing of different metals, polishing, and plating of different metals with brass, copper and nickel and antiquing process with clear lacquer and epoxy coating.

The students also got a chance to meet Mr. Myles, a designer from South Africa who was at the time interning at Oliver McInroy & Co. Some of the students even decided to give it a shot and built candle stands out of molten Aluminium using sand casting as a process.

We will be organising more such educational trips in the coming years to help the students of D&T 0445 get the best of both textual and practical learning and, in turn, help them broaden their perspective to think more freely and with ease while finding alternatives to a concern.



Along with these setups we will be organising more educational trips in the coming session to help the students of D&T 0445 and IB_DT to get the best of both textual and practical learning and, in turn, help them broaden their perspective to think more freely and with ease while finding alternatives to a concern. Mr. Anuj Prasad, Director and Founder of Desmania Design Pvt. Ltd. (www.desmania.com) has also agreed to let us take our students to their facility in Manesar, to show the students how Fabrication of models along with iterations of design and Computer Numerical Control (CNC) prototyping occurs.

IGCSE DT Project Portfolios:

In Class 10th, the IGCSE DT students work on their projects. The project is internally marked by the teacher and externally moderated by Cambridge University.

As Cambridge does not prescribe project areas, we at Genesis give freedom to the students to observe and select their directions. It is at the research stage that the students develop their design brief and project specifications.

The candidates were asked to research into a variety of suitable directions at Genesis Global School. These directions were the problems/concerns that they had faced in their day to day lives, or their friends and family would have suggested. The idea was to look for as many directions (opportunity areas) as they could find, and take forward the most common of the lot. As design works best if it can be applied to the masses, the candidates were asked to keep in mind that their problem must cater to the needs of a larger market.

Once the direction was decided, they were asked to research in that area, all possibilities and solutions that already had been explored. This was to be done through a variety of mediums such as; market surveys, visiting friends and family, internet research, as well as by sharing their chosen 'problem area' with individuals, known and unknown, to get some valuable feedback.

After completion of the research the students found it easier to take inferences from what was present and suggested, to create their specifications. These specifications led to the building of the final design brief. Keeping these specifications into consideration the students then developed their ideas which later resulted in another set of user surveys. This survey helped the students decide which idea would be the best suited for further refinement and development. They did however also need to keep in mind that their product must have a function along with catering to the needs of many.

The students were asked to complete their design portfolio along with a prototype that would cater to a large number of people and continue to have a function. All candidates used their learnings from the subject as well as their experiences and a combination of sciences and other technologies to develop working prototypes, which they later tested and evaluated.

Apoorva Goel

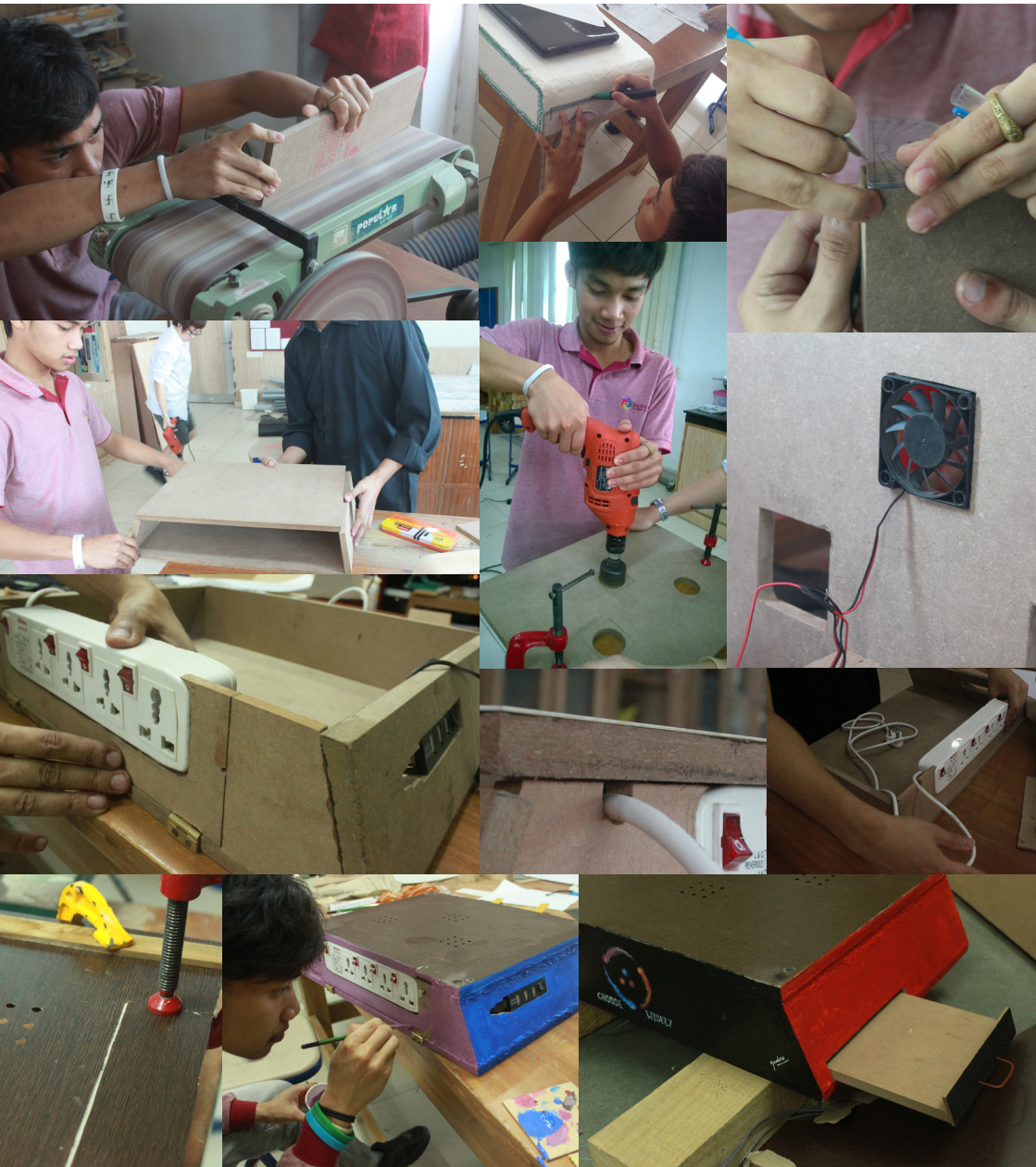
"In IGCSE, we have a course called enterprise. The problem faced by a lot of students is that they have to carry all their products which they are selling and have to display it on tables in corridors, safe keeping is also an issue, since there is no permanent place for them. This wastes a lot of time, since they have limited time.

Therefore, while considering a set of specifications my solution should be compact, yet functional, safe and secure. It should also be easy to move around(mobile), it should look good. Simple yet can be used in different ways and ergonomic as well. To solve the problem, I have designed a shop on wheels".



Porramet Kongtaweesub

“People working from the bed need a good platform to keep laptop and food, but there are not many option available. I would like to make a platform which is light weight, easy to carry and use. It should be a simple design. It should be small, but can store many thing. It should also be water proof and have a non-slip surface”.



Piyush Kumar

"Nowadays we need a medium to travel. However for smaller distances we usually walk as it is inconvenient to drive around. It is also a waste of fuel. There are many instances when we require conveyance for small distances but as there are not many designs available, we walk. So, it would be nice to have a mobile product which will be light weighted, ergonomic with a controlled speed, water proof, easy to carry, easy to store, affordable and also would be used by a large number of people. It would also be nice to make it work both mechanically and manually powered".



Vedica Kaushal

"In India you can see a lot of street vendors. Some of them have their own mobile units and many have rented ones. Most of these carts don't provide basic necessities such as sitting arrangements and organization of small materials for display or even a safe way to keep money. A good solution for this would be to have easy storage, a light weight structure, a counter to keep equipment along with a safe for money. It should be basic, compact yet functional and affordable for the vendors. It would also be interesting to give these carts access to renewable energy so that they can use electricity. It should be ergonomic for not only the vendor but also the customer".



Mansi Gupta

"In the library there are many books so no space to keep all of them. And, the designs of the bookshelves are too common. I want to make a big size modular bookshelf so that enough books can fit inside. Sometimes people like to sit near the bookshelf so it will be nice if there is sitting provided. It would also have wheels so that it becomes easy to move it from one place to another. It should also have a lock system so that the books are safe. It should also be easy to use for all the age groups and it should be affordable".



Jiranthanin Kongtaweesub

Small things are difficult to find and see, so I would like to make a storage which easy to see (spot), can keep lot of things but neat. It should be simple (classic), fashionable and I want to make in different material and colour. It may be easy to carry or may not move able.



Form Follows Fun:

While the tools of design have changed, from the sliding parallel rule to intelligent software so versatile that it is almost a direct extension of the imagination, the human mind continues to work in many tangents at the same time. The technology for manufacturing engineered products has kept pace, enabling the fabrication of forms and patterns that, until recently, would have been unthinkable and prohibitively expensive. Designers of the new era enjoy unprecedented freedom to explore, play, and design from the heart.

Keeping this in mind we prefer if the student explores the materials, tools, machines and processes not only as these are new mediums of exploration but also to learn from, apply to, and understand their relationships along with their properties. We thus encourage each individual to enjoy this experience and learn from it through extensive practical learnings and experimentations along with sharing their thoughts with each other to be able to develop a more holistic solution to the various concerns/opportunities.

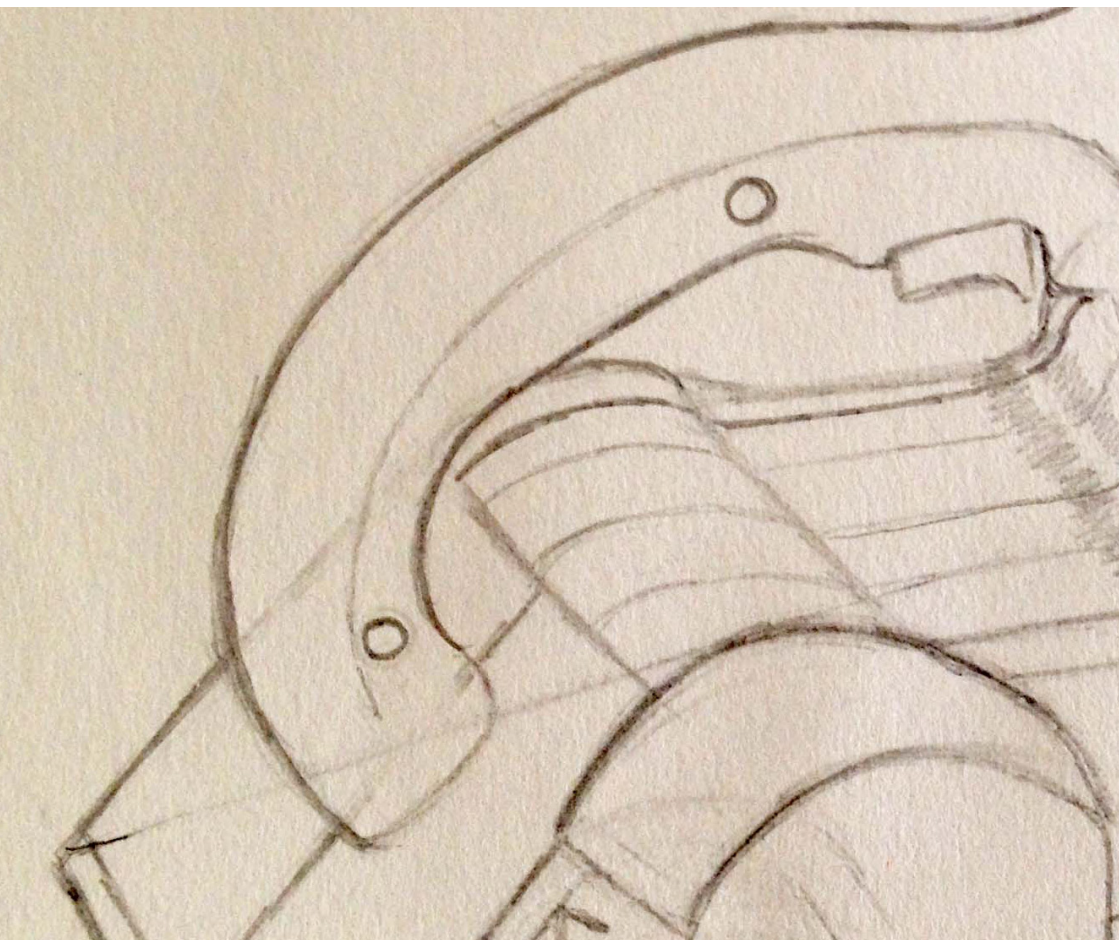




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