



IMPORTANCE OF EXPERIENTIAL LEARNING METHODS IN DESIGN EDUCATION. A STUDY OF VARIOUS EFFECTIVE APPROACHES IN THE CURRENT AGE OF DESIGN PRACTISE

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Abstract-

The goal of the study paper was to illustrate the value of an experiential approach, a flexible ideation process, and improvements in the field of design. It seeks to highlight the importance of the experiential learning approach in design education. Based on a few particular design projects completed by the designer and design practitioners, the diverse efficacy and impacts of design practise have been highlighted throughout the paper. Each project has a unique contextual narrative that gives viewers important visual elements and emotional values. The research has now come to a conclusion: Experiential learning results are mostly associated with the critical thinking skills and user-oriented design practices, which are more successful than conventional approach of design education.

Key Words- Design, Effectiveness, experiential learning, analytical thinking, outcomes, projects

INTRODUCTION-

Each area of human life is connected to the experience of beauty. By the very essence of each and every object, it expresses. The nature of various items constantly serves as a foundation for the effectiveness of human contact. Functional and Non-functional visual appeal are two different types that describe the characteristics of each design practice. Both types effectively communicate with individuals while conveying the essence of beauty. Therefore, applying design is nothing more than a means of effective communication between us. It displays the psychic blissfulness of people. In fact, human's psychology is primarily subordinate to visual representations of a natural environment. Most human behavioural changes appear to be caused by various visual interactions or representations (Naturally existing or man-made). Therefore, practising design is a solution on its own.

A great design is always focused on finding answers. As a result, it is accountable for both the object's aesthetic appeal and the creation of human accessibility. This is based on both practical and purely aesthetic requirements. The bridge that separates the sustainable approach to an object's design from the perspective of visual depiction defines the approach to design and whether it is a user friendly design or not. It largely depends on the components or characteristics of that particular Design. Ultimately, the technique of design provides a valuable visual instruction to comprehend our needs and its applicability while designing any accessory or product.

Tessellation and adaptation are crucial elements of practise that are influenced by our visual thinking (It is nothing more than a structured method of visualisation.). It is always grounded in our collective memories and perceptions. As a result, when it comes to emerging with any fundamental concept, the “way of seeing” is of utmost relevance in design practise.

An experiential skill shop, which is sometimes referred to as an experiential learning workshop or training programme, is a learning environment or activity in design education to give participants hands-on learning opportunities for developing particular skills. Experiential skill shops emphasise active involvement, observation skills, and practical applications rather than just standard classroom instruction to improve the learning outcomes.

Participants participate in a variety of exercises, simulations, group discussions, and problem-solving activities relating to the particular skill being taught in a skill shop. Personalization and interactive technology are frequently used in these workshops to make learning fun and immersive. The intention is to develop a supportive environment where participants may actively apply their information, develop their abilities, and get feedback.

The research focuses on the distinct ways that designers and design apprentices see in order to understand their process of ideation and visual representation in 21st C in India. As well as how their psychological involvement relates to their experimentation and exploration during the process of creation. This mind set leads to continues practise.

Eventually This paper focuses on the importance of experiential learning aspects in fundamentals of design education and how experiential approach of design practice can bring an effective outcome in the 21st century. The paper address a few experiential design projects done by a Designer and a few design apprentice. Throughout the research the paper try to grasp their perspectives on design practise, visual representation and story behind their projects, and psychological impact of their design on the general public.

THE MAJOR REASONS WHY EXPERIENTIAL APPROACH IS IMPORTANCE IN FUNDAMENTAL DESIGN EDUCATION-

Practical Experience: Design is a practical discipline that necessitates practical training. Designers can put their knowledge to use and improve their practical abilities by participating in real-world design projects and exercises in skill shops. Designers can better understand design concepts, methods, and processes by actively participating in the process.



(Plate-1.1 and 1.2 Students are working with their experiential Project.)

Collaboration and Communication are key components of experiential approach of Design practice. Working with other professionals from different backgrounds gives designers the chance to strengthen their interpersonal and communication abilities. These workshops also foster networking opportunities, giving designers the chance to get in touch with professionals in the field, possible customers, and colleagues.

Finding solutions and Analytical thinking: Problem-solving and creative tasks are a constant for designers. Participants at experiential skill shops are frequently given design briefs and circumstances that call for original thought and in-depth study. By participating in these activities, designers can improve their problem-solving abilities and discover fresh ways to get over design roadblocks.

Input and self-improvement: Through Experiential aspects of design practice, Instructors and other participants offer designers insightful input. Designers can sharpen their abilities and improve their design processes by using this feedback to pinpoint their areas of strength and need. Design professionals can benefit greatly from constructive criticism from knowledgeable industry experts as they progress and create their own distinctive design language.

VISUAL REPRESENTATION IN DESIGN PRACTICE IS POSITIVELY AFFECTED BY AN UNDERSTANDING OF DESIGN METHOD AND MATERIALS-

Every product or object has its own purpose of satisfying human needs. In many cases, the 'affinity between materials' and 'methods used to develop a product' reflects the quality of its visual presentation. Designers are always interested in the material properties (Ex: Hardness, softness, flexibility, fluffiness etc.,) and their compatibility during the process. Finally, a visual representation indicates the result or degree of improvement or modification to meet the user's needs. Thus, in design practice, usability of materials and methods can never be considered static. The dynamic aspect of idea generation over a given period of time always helps designers to tessellate and modify products with specific practical aspects.

Designers and design practitioners typically seek to introduce technology, exploring basic technical shapes and forms, and then constructing their own language in relation to the uniqueness of the method of execution. This exercise helps the designer to define the story of their product which gives an identity to its creator.

MACRAME'S BROADER EXPLORATION IS CONSIDERED A PROBLEM-SOLVING TECHNIQUE IN DESIGN PRACTICE.

Through accessible sources macramé technique was started somewhere between 15,000 and 17,000 BC. From region of Arabia, it began with a simple knot. The word 'Macramé' in Arabic is related to weaving or hand curling. It is a sign of human history, the simple act of attaching two loose ends together. Originally, the Technique of macramé was used in magic, mathematics, religion and medicine, art and decoration. Even we find the samples of Macramé during the mentioned the technique of Knotting as old as time period between 250,000 and 2500,000 years old. This practice flourished in different parts of the world over time. Most important innovation is the development of this technology in France, Spain, Turkey and even the East Asian continent when civilisations started to use simple tools for knotting throughout civilizations, rope making also developed as an advanced technique in Egypt. Using the basic macramé technique. 3300 BC One of his notable inventions has already become known, Ötzi's incredible shoes discovered of ICE Man in which is 5300years old. The shoes looks like knotted grasses and are considered the earliest example of macramé technique. The materials used in this technique have undergone tremendous development in terms of their various uses. Large-scale exploration and utilitarian approaches were reflected in the 18th and 19th centuries. Many knot inventions can be found mainly with sailors. They began to adopt this technique during the Victorian era. Lace making was also a big trend in late 19th century. Eventually, the technology spread exponentially and many other household items were made during this time using the Technique.

Macramé culture, the most popular of its kind, began to disappear during the global industrial revolution. In modern times, however, we have found many craftsmen and designers involved in this practice, creating a wide variety of products.

One can find that one of the most popular products in Macramé is a Pot Hanger, among many others. Japanese bonsai plant pots are considered to be the main inspiration for creating various pot hangers using the macramé technique. This research paper aims to explore the work of an Indian fashion designer and design educator Mrs Garima Agarwal. She experiments with art as a whole keeping usability of the product she makes. It's worth noting that she created some notable pot holders.



(Plate 2.1 the image based on the process of knotting in macramé work done by Ms. Garima Agarwal.)

Mrs Agarwal says “Macramé is a form of textile creation that is made by use of knots. Since this style of art has recently re-acquired popularity, craftsmen and artists are thinking of creative ways to use this art that go beyond the traditional plant hangers and wall hangings. There are no special tools needed to tie each knot; all that is needed is a mounting base (can be a ring stack) to hold the object in place while you work. Designers are utilizing Similar ways as well as innovative ways of craft to create unique products and accessories. Through this technique, fashion designers are working toward zero waste.



(Plate 2.2 one and Plate 2.3 based on the process of work done in macramé techniques.)

(Collected from Ms. Garima Agarwal.)

Fashion designers typically use square knots, full hitch knots, and mounting to create the shape of a garment when using the macramé technique. So, that they get the perfect curves and fits according to the body shape. In my opinion, macramé craft encourages sustainable and zero waste fashion.”

UNDERSTANDING MATERIALS THROUGH EXPERIMENTATION PROVIDES A UNIQUE DIMENSION IN DESIGN PRACTICE.

All materials have their own properties. Essentially, the various properties describe the nature of the material in the context of product or prototyping. A product's practical value is usually related to sustainability aspects. Therefore, identifying the properties of each material is a fundamental approach in effective design practice.

The research work therefore begins with Mr. Gahan Reddy, a young design apprentice who seeks to understand different perspectives of resin properties and their behaviour through experiments with resin properties and other materials such as wood, paper, plastic and fabric including other organic materials. He believes that we humans often try to tell different stories, whether fictional or sometimes dubious. Therefore, our practice matters to clearly to understand the actual purpose of our creations and explorations.

Mr Gahan Says “I was very excited after seeing a mosquito in a yellow ball in the movie Jurassic park, I just went on the internet and searched about in and learned that it was made up of resin and that particular one is around millions of years old. I was thinking how can resin keep materials in the same way for 100 or 1000 of years also. There is a person named Gaetano Pesce who is an Italian designer who moved from Italy to New York. He is the person who started to work with resin a lot. The other person is Piergiorgio Robino who

is based in Turin and one of the most famous explorer in the field of resin, I did attend few of his seminars which inject the interest of experimenting and exploring more in the resin field”.

Mr Reddy told: “After searching on the various secondary resources, I found that the uses of the resin were millions of years old. I've been thinking about a person named Gaetano Pesce, an Italian designer who moved to New York from Italy. He is the one who started using resin extensively. Another is his Piergiorgio Robino, one of the most famous discoverers in the field of resin, who lives in Turin. I had attended one of his seminars, which piqued my interest in experimentation and research in the field of resins. ”

According to the Gahan’s report of resin experimentation,

For construction of the resin model/ product/ prototype the materials we use is corrugated paper and vinyl which is helpful for sealing the prototype.

Materials needed to create the mould are: -

- Vinyl adhesive for sealing the mold
- Cardboard paper that we use for the mold
- Cutter
- Weight scale
- Silicone

Materials needed for resin casting: -

- Resin
- Weight scale
- Laser thermometer as the total influences of casting goes to temperature
- Sanding machine and the sand paper

He reiterated that most people do not look at data sheets or safety information. However, he said that following the instructions is very important and that this is the most important part of the mixing process. So we should stick to the datasheet and understand the exact configuration.

Key points need to add in a data sheet: - (According to the Gahan’s report)

- Pot life: - The particular duration where one can work with Pot life in resin experimentation
- Gel time: - the time it takes for a mixed resin solution to gel or become highly Viscous. The duration when resin reduces its viscosity and starts becoming a gel
- Demoulding time: - a specific amount of time when the resin solution (hardener and Resin) needs to stay inside the mould
- Temperature: - Cold ambient reduces the ability of the resin to jellification and to be hard enough
- Volumetric Shrinkage:- the percent by which the resin shrinks
- Storage:- About the shelf life and how to keep the resin



(Plate- 3.1, Resin experimentation with Bay Leaf done by Mr. Gahan)

According to Gahan, it's very important to check the datasheet before delving into the material. One of the most important things when working with resins is temperature. If the temperature exceeds the storage limit, it is not suitable for work because there is a specific temperature to use. If you're working at a higher temperature, this can be a problem as the pot life is shorter so you either don't have enough time to work with it or it reacts faster and can crack the surface. Even moisture plays a big role as some resins, especially urethanes, are moisture sensitive.



(Plate- 3.2 & 3.3- Represented various material reactions with epoxy resin done by Mr. Gahan Reddy)

Material selection depends on what type of finish you ultimately prefer. You can use the melamine whiteboard to create the shape and the flexible to create a suitable surface. The harder the mold is to handle, the more pressure it will exert on the sides, making it harder to seal the designed modal or prototype.

Pigmentation :-

Color in resin is very interesting as we can create anything from transparent, matte, fluorescent etc.

Types of pigment we often get are :- (As per the Gahan's report.)

- Paste
- Ink
- Powder

People don't care about reproduction of the same colour, although it's very important to produce the same colour.

- Ink gives a crystalline effect
- Paste gives a matte finish
- Powder gives the florescent finish

Eventually. It's important not to add more than 2 percent in weight of pigments because otherwise they will decay and sediment on the base of the mould.

UNDERSTAND THE CHANGES IN RESIN BEHAVIOR DUE TO THE ADDITION OF ORGANIC MATERIALS AND INDUSTRIAL MATERIALS

During his research and experimentation with resins, Gahan tried to find many important behavioural variations.

He addresses the multiple nature of treatments related to resin reactions with various objects:

- **Reaction with flowers' petals:** - The main problem with using dried flowers is blooming as the plants start sucking up the resin and creating air bubbles.
- **Stone:-** Stone can contain a lot of dirt. Therefore, need to use a brush to clean it well.
- **Wood:** Use dry wood if ones want bubbles, use wet wood if really want a special effect.
- **Fabrics:-** see if the fabric color doesn't stain and change the color of the resin. Check the reaction between color and the resin.
- **Plastic:** - Everyday plastics will be affected by liquid polyester resin and may discolour, deform or even dissolve to some extent.
- **Paper:** - As paper soaks resin, we can use PVA glue, apply pva glue and let it dry to make it water proof

THE ESSENCE OF FEAR VS A STEP TAKEN TO REACH HIGHER LEVELS OF BEAUTY IN VAISHNAVI'S WORK-

Miss. Vaishnavi had numerous technical issues throughout the course of her work. She had trouble balancing the face and the base of the structure as she was sculpting. Because she did not make a plan for the sculpture's armature. A design's foundational premise is balance. However, her ignorance gave her the opportunity to strike the right balance and use the right expression.



(Plate- 4.1 and 4.2, Project Beauty Standard done by Mrs. Vaishnavi)

Through her studies, she attempted to define the beauty standard. She realised from her previous experiences that the current social classification is defined by the ambiguous impression of beauty. The Project raises awareness of persistent, specific social prejudice based on aesthetic perception. She feels that the word "beauty" cannot capture our inherent potential and skill. As a result, this work can be seen as an indication of inner strength and potential in contrast to outward look, which offers a suitable identity in modern society.

MDF board, aluminium foils, metal wires, air-dry clay, glass marbles, Mseals, spray paint, cotton, steel wools, and nail polish are the materials she utilised.

SYMBIOSIS- A PROJECT DONE BY MISS DHANYA RAMESH HEGDE

Symbiosis represent coexistence of diverse organisms. It is inevitable that several species will come into close contact. The project serves as a reminder to treasure this exquisite world symphony through the use of the analogy of the tree and the mushrooms and the play of aesthetics

Conceptually Miss. Hegde try to highlights the value of fundamental connections and comprehension in today's society for being more responsible for the fruitful development of mankind, by this project.



(Plate- 4.1 and 4.2, Project Symbiosis done by Miss. Dhanya)

Miss. Dhanya is inspired by a natural mushroom, and she studies the forms and different materials, such as plaster of paris, silver foils, copper wires, resin, etc., in an effort to comprehend them. However, she was unable to use all of the supplies, and ultimately, her research gave her a deeper understanding of how to employ writing supplies including a wooden base, threads, coffee powder, and hot glue guns.

The work of knotting various EAD types and turning them into real roots was not simple. It took a while—roughly 8 hours. She has discovered that, depending on the scope of the project, it can be challenging to create a dirty impression well.

CONCLUSION-

In India, the efficient usefulness is every designer's top priority in the twenty-first century. The procedure will offer a vast array of inquiries to help understand the concepts relating to the product's eventual aim. The practise of design increases the possibility of successful manufacturing all across the many material explorations. Today, upgrading a product's configuration or method of modification greatly influences the product's quality. It effectively indicates the market's potential for sustainability in addition to the components that are widely obtainable. The modern consumer demands improvements and expansions in any market's products.

The nature of the work created by Ms. Garima Agarwal, Miss. Dhanya Ramesh Hegde, Miss. Vaishnavi Krishna Bhat, and Mr. Gahan Reddy was therefore determined through research analysis to show the enormous significance of material explorations and experimentation to narrate a contextual & visual language and emotional values for conveying a few key awareness to the society. The study also tries to highlight how well each one of them used the experiential learning approach to give their design language a shape.

The research analysis addresses the fact that Miss. Dhanya, Miss Vaishnavi, Mr. Reddy and Mrs. Agarwal are apprehensive about the scope and form of their creative processes. A designer doesn't always seem to choose to modify a product on their own. Everything occurs in accordance with the product's goal and the needs of the user. Additionally, the ideation and production process in design practise is a reciprocal process where the potential for modification and change is a key element involved.

In the millennium period of design in India, the mass acceptance rates of a product define the excellence or benchmark of any design phase (in the context of ideation, materials exploration, and experimentation) as an end result that seems to be visually appealing and solution oriented.

Being a Design Educator I had the honour of seeing first-hand how experiential teaching approach changed the creative perception of the students during the process of their design projects. They had an opportunity to apply theoretical knowledge in practical situations. The hands-on educational approach of the courses significantly accelerated their personal and professional development. Eventually the Student learned a lot about the value and importance of experiential learning as their trip progressed.

Firstly, throughout their projects, all of them showed a surprising amount of enthusiasm and dedication because of practical engagement. They were able to immerse themselves in the subject matter by actively taking part in a variety of tasks and challenges, which led to a greater comprehension of the ideas and principles they had acquired. They were able to bridge the gap between classroom learning and practical circumstances because to the project's hands-on approach.

In addition, practical learning gave students a platform to hone vital life skills like problem-solving, critical thinking, and effective communication. Students may have suffered difficulties and disappointments, but they all learned to overcome them by working with their colleagues and looking for creative solutions.

Beyond creating, an experiential learning approach could offer a wider variety of hands-on learning opportunities. It might be a Space or an effective teaching language of design that emphasises imparting certain competencies through hands-on, immersive learning experiences. Culinary arts, woodworking, electronics, programming, or even soft skills like public speaking or leadership could be covered at these skill shops.

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