

PRACTICE LED:  
MAKING THROUGH RESEARCH  
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Design practice has begun to explore new dimensions. Designer's role has become as important researcher to triangulate within the user needs and interpreting the creative process in design practice. The designer/researcher must equip themselves with the knowledge and the skills as part of the research process, and this has produced a new way of doing research.

"Designers have to practice design in order to conduct research". This research then could be said to be practice-led research, which has also been termed 'research through design' "Practice-led" research is concerned with the nature of practice and leads to new knowledge that has operational significance of practice. It is a creativity segment that is relating a concept to a particular body of knowledge towards innovation.

There are three possible relationships between research and practice that can be seen in the design project in STEdex 15/16.

- Research about practice – inquiry focussed on practice; (e.g., pursue a design project to help uncover

making processes - a project by Nazlina Shaari

- Research for the purposes of practice – inquiry to inform or provide material for practice; (e.g., pursue a design project to help conceive and develop new design procedures, information, priorities, and tools).

- project by Mohd Shahrizal, Golna and Muhammad Faizal Che Leh

- Research through practice – inquiry achieved via practice. (E.g., pursue a design project to help contribute to how a type of product can be designed, how it can be improved, and to demonstrate benefits) - project by Raja Ahmad Azmeer Raja Ahmad Affendi

Project in STEdex 15/16 has developed research on how to successfully integrate design projects within academic research. In each of these design projects the inclusion of a design project constitutes an empirical inquiry from which designing (as an activity) and designs (as outcomes) are sources of research data. It draws upon logic, imagination, intuition, and systemic reasoning, to explore possibilities of what could be, and to create desired outcomes that benefit the end user (the customer).

JURY REVIEW  
INDUSTRIAL DESIGN  
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Design thinking commonly been defines as a creative process that helps us to design and proposed a useful and practical solutions for users, community or even surrounding. The process encourage designer to think, analyze and synthesize to create ideas rather than to simply beautify them. It can be said that design is neither science nor art but combination of both. Design is about identifying real needs and desires; solving problems while connecting with people emotionally. In fact designer ability to speak language of engineering, marketing and technology will empower designer in their discussions and to argue strategically of their creation.

Therefore designer cannot work alone yet they need companion from engineering, science and management. The STEdex 15/16 on Industrial Design context had witness a paper and five interdisciplinary projects and teams that highlighted the important of design thinking and design research. The innovations they

created opened opportunity either for product reality or further development by other researcher or designer.

Breeding Design Thinkers discussion looks into knowledge differentiation in term of use and meaning. The focus on designer versatilities in the organization were presented briefly yet was connected well with the main issues as a thinker. The early education would be essential for designers to develop their bank knowledge and memory. In fact designer with value knowledge should be able to use it as a weapon in competing with others.

The Pictorial Semantic Differential (PSD) technique benefits the designers in understanding the user interpretation on product design. The investigation looks into how the pictorial able to inspires the viewers to interpret the product perception and meaning. The outcomes provide evidence for the product meaning

differentiation following to the multi views that could becomes the design cues for designers particularly in car industry.

While the thinking affects the conventional design process, the emotion values in design commonly associated with the consumer feel and bonding towards the product. The Crabby Bench demonstrates how the new concept could transform the ideas of versatility and modular into home furniture. The crab representation inspired designer observation on colours, material, flexibility and shape in meeting the viewer emotion.

The engineering touch and process to improve performance of Kenaf as new material known as KCRP composite offer opportunities in constructional industry. The Simulated Selective Laser Sintering of KCRP

combines the engineering technology with design approach to test the possibilities to produce the KCRP composite for the constructional purposes. The researchers provide more values to the construction industries in using the local material within the expected specification.

Design is about making differences in people lives, which they embrace because of the holistic value the creation provides. The smart innovation of Urban Agricultural Products offers small scale modern farming to suit with urban lifestyle. The proposed product intended to encourage urban occupants planting in their own house to meet food demand and supplies. The innovations in design consideration represent designers thinking in creating a good commercial value product.

The use of natural material is commonly associated with the eco-friendly or sustainable issues that been discussed globally. While researcher tend to find alternative to synthetic dyestuffs in dyeing and printing industries, the Eco-Friendly Mordant from Musa Paradisiaca would be the potential natural material for this industry. The outcomes of this natural dyes demonstrates the possibilities for use in high-quality natural fabrics, home textiles and decorative products.

Finally, the above innovations need some thought that reflects the education level of knowledge. Furthermore the designers or researchers must educate themselves particularly on the aspects of business strategy. Therefore designer understanding on how design can become the strategic marketing planning for the business success would benefit them to be

successful in creating the innovation they intend to. Therefore designer must aware to grab the opportunity, develop, support and promote it.