Bharat Ratna Prof.CNR Rao Research Centre

Report of the

Workshop on

"Design Expert Software-Training Programme"

(for Research Scholars of School of Home Science)

Date: 19.06.2023

Time: 1.30 pm to 4.30 pm

Venue: Gallery

Report on Workshop Design of Experiment Software – Training Programme

A one-day workshop on the Design of Experiment software was organized by Bharat Ratna Prof.C.N.R Rao Research Centre of our institution focusing the Home Science researchers. The workshop was held on 19.6.2023 afternoon at 2 pm at the Gallery of our institution; the prayer song was followed by the introductory talk by Prof. Dr. P. Lalitha, Director (i/c), Research and Development, Coordinator Bharat Ratna Prof. C.N.R Rao Research Centre. The theory and demonstration of the software were handled by Ms.Pon Nivetha A, PhD Scholar, Department of Chemistry of our institution.

The theory session focused on the Introduction of Design Expert software, experimental design, data analysis, Response Surface Methodology (RSM), brief explanation of mixture designs, examples of graphical visualization, and data optimization were provided. The software demonstration was done via a recorded video. The data used for the demonstration was mainly focused on Food science, textiles and big data (survey). In demonstration, the cause and effect of factors, the response obtained, the models chosen and how they affect the experimental design and interpretation of the results with respect to food, textiles and big data were explained in detail.

The culmination of the workshop was with the question and answer sessions, the discussion on the topics such as how to provide data collection, the format required for the analysis, the common queries such as the possibilities for consultancy, the tariff for the specific studies raised by the participants were addressed by the speaker Ms.Pon Nivetha in detail. The session concludes with the feedback from Ms Rachael Alphonso, PhD Scholar from the Department of Food Science and Nutrition.

Researchers belonging to Food Science and Nutrition, Food Service Management and Dietetics, Textiles and Clothing, Women's studies, and Home Science Extension education about **20 in numbers were the beneficiaries** of the workshop.

Dr. P. Lalitha, Director (i/c), Research and Development, Coordinator Bharat Ratna Prof. C.N.R Rao Research Centre delivered introductory talk

Ms. A. Pon Nivetha, Research Scholar, Department of Chemistry demonstrate the Origin software and its usage involved in research work

E-Certificate of participation (sample copy)

About the Software Design Expert

Design-Expert is a **statistical software program** commonly used in the field of design of experiments (DOE). It is primarily **used to plan, analyze, and optimize experiments** in various industries such as pharmaceuticals, manufacturing, engineering, and research and development.

The **main purpose** of Design-Expert software is to help researchers and engineers design experiments that efficiently and effectively explore the **factors affecting a particular process or system.** It **provides tools and techniques for experimental design, data analysis, and visualization.**

Some of the key uses and features of Design-Expert software:

Experimental Design: Design-Expert allows users to design experiments by selecting the appropriate design type, such as factorial, response surface, mixture, or Taguchi designs. It helps in determining the optimal settings for the factors under investigation and ensures efficient use of resources.

Data Analysis: The software offers a wide range of statistical analyses for experimental data. It can perform analysis of variance (ANOVA), regression analysis, optimization, and graphical representation of data through various plots and charts.

Response Surface Methodology (RSM): Design-Expert supports response surface methodology, which involves creating mathematical models to understand the relationship between input variables (factors) and output responses. It helps in predicting the optimal combination of factors to achieve desired response levels.

Mixture Designs: Mixture experiments are used when a system or process involves multiple components. Design-Expert allows users to design and analyze experiments involving mixtures, helping to determine the optimal composition or proportions of the components.

Graphical Visualization: The software provides visual tools like contour plots, 3D surface plots, response trace plots, and interaction plots. These visualizations help users interpret and communicate the results of their experiments effectively.
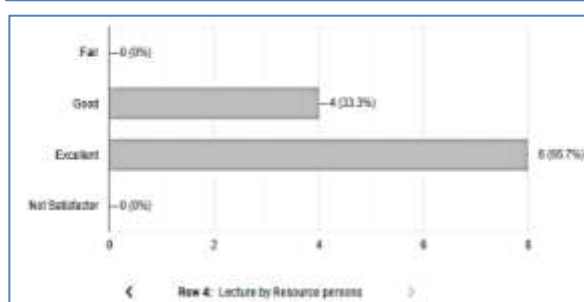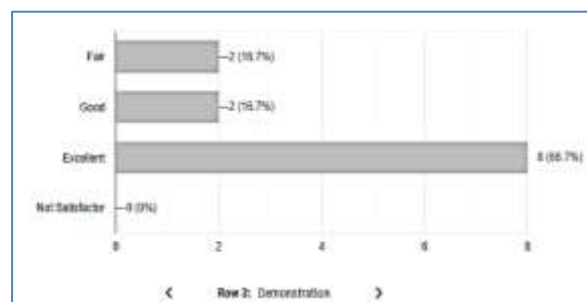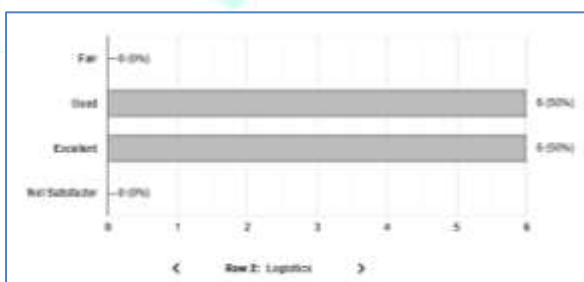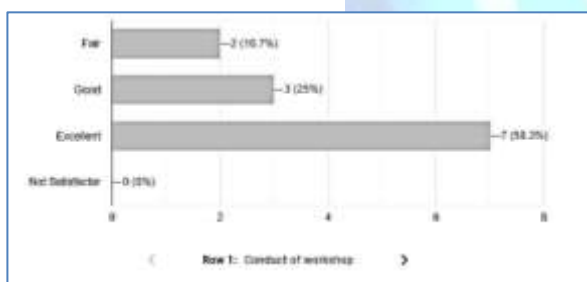
Optimization: Design-Expert facilitates optimization by allowing users to find the optimum factor settings that maximize or minimize a response. It can perform numerical optimization based on user-defined objectives and constraints.

Overall, Design-Expert software is a powerful tool for experimental design and analysis, helping researchers and engineers make data-driven decisions, optimize processes, and improve product quality and performance.

PROGRAMME

1.35- 1.40 pm	:	**Prayer**

1.40- 1.50 pm : **Welcome**
Dr.P.Lalitha
Professor of Chemistry,
Director R & D i/c
Avinashilingam Institute for Home Science and
Higher Education for Women

1.50 – 3.00 pm : Technical Session
**"Design Expert Training Programme for Home
Science"**
Ms. A. PonNivetha
Ph.D Scholar, Dept. of Chemistry
Avinashilingam Institute for Home Science and
Higher Education for Women

Feedback Session / Interaction

3.15 pm- 3.25pm : **Vote of Thanks**
Any one scholar-voluntary basis

Feedback about the event

Avinashilingam Institute for Home Science and Higher Education for Women
(Deemed to be University Estd. u/s 3 of UGC Act 1956, Category A by MHRD)
Re-accredited with A++ Grade by NAAC, CGPA 3.65/4, Category I by UGC
Coimbatore - 641 043, Tamil Nadu, India

Bharat Ratna Prof.C.N.R Rao Research Centre

Workshop on "Design Expert Training Programme for Home Science"

Date: 19.06.2023 (AN)   Time: 1.30 pm to 4.30 pm   Venue: Gateway

Attendance Sheet

S.No	Name of the Participant	Class/Designation	Signature
1.	N. Komathy	ph.b. FSMD	
2.	J. Yoshita Leela	PhD FSMD	Yoshita Leela
3.	D. Saharani	PhD FSN	
4.	M. Gomathi	PhD T&C	M. as.
5.	K. Sangamithira	Ph.D. T&C	K. Sangam
6.	M.P. of five Das Gopal	Ph.D. phone's studie	
7.	E.S. Madhuthalni	Ph.D Textiles & clothing	ESMadhuthalni
8.	Leyla G	PhD. Women's Studies	
9.	K. SUMATHY	Ph.D. Home Science	
10.	Rashmi Mohan	PhD FSN	
11.	KOUSHIKYA. H.M.	Ph.D fsd	
12.	Souvndya. G	Ph.D FSN	
13.	Sanghamitra R Reshma	Ph.D Extn	
14.	Sachmita Beam	PhD Extn	
15.	Saranya. T	Ph.D FSMD	
16.	Sharmithaniya h.li.	Ph.D FSMD	
17.	V.Bhati. V	Ph.D FSMD	V.Bhati
18.	Leelavathi. V	Ph.D FSMD	V.Leelavathi
19.	R. Keerthana	Ph.D Textiles & clothing	Keerthana. R

20.			
21.	NIVEDHA. K	ph.D Textiles & clothing	
22.			

Avinash

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Recognise

GUIDELINES/PROFORMA

Name of the applicant: Dr

1. Activity
2. Geographical Cover
3. Name of the Event
4. Date(s)
5. Venue
6. Name & Designatio
   Convenor
   Organizing Secretary
   Organizing Member
7. Financial Assistanc
8. Details of assistanc
9. Details of collabora
10. Detailed Proposal o
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    Effective usage of Design Expert software for researchers of Home science school
    B. Target audie
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for Home Science

number of days: One

Prof. CNR Rao RC

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Miscellaneous Receipt

Original

Receipt No : REM432/2023-24
Receipt Date : 23-06-2023
Name : Meenukapriya K K
Department Name : Ph.D FSMB
Account Type : Research and Consultancy
Towards : Prof.CNR Rao Res.Centre
Description : Design Expert Training Programme for
Home Science
(Rf.no 317501697192/19.06.23)
Mode of Payment : Cash
Amount : ₹ 50.00/-
(Received Fifty rupees only)

Miscellaneous Receipt

Original

Receipt No : REM433/2023-24
Receipt Date : 23-06-2023
Name : Sanghamithra R Sathie
Department Name : Ph.d Extns
Account Type : Research and Consultancy
Towards : Prof.CNR Rao Res.Centre
Description : Design Expert Training Programme for
Home Science
(Rf.no 317062342093/19.06.23)
Mode of Payment : Cash
Amount : ₹ 50.00/-
(Received Fifty rupees only)

Miscellaneous Receipt

Original

Receipt No : REM424/2023-24
Receipt Date : 23-06-2023
Name : Sowmiya G
Department Name : Ph.D FSN
Account Type : Research and Consultancy
Towards : Prof.CNR Rao Res.Centre
Description : Design Expert Training Programme for
Home Science
(Rf.no 353432559052/19.06.23)
Mode of Payment : Cash
Amount : ₹ 700.00/-
(Received Seven Hundred rupees only)

Miscellaneous Receipt

Original

Receipt No : REM429/2023-24
Receipt Date : 23-06-2023
Name : S.Sivadhasani
Department Name : Ph.D Women's Studies
Account Type : Research and Consultancy
Towards : Prof.CNR Rao Res.Centre
Description : Design Expert Training Programme for
Home Science
(Rf.no 317000565882/19.06.23)
Mode of Payment : Cash
Amount : ₹ 50.00/-
(Received Fifty rupees only)

Miscellaneous Receipt

Original

Receipt No : REM428/2023-24
Receipt Date : 23-06-2023
Name : M.Gomathi
Department Name : Textiles and clothing
Account Type : Research and Consultancy
Towards : Prof.CNR Rao Res.Center
Description : Design Expert Training Programme for
Home Science
(Rf.no 317004477543/19.06.23)
Mode of Payment : Cash
Amount : ₹ 50.00/-
(Received Fifty rupees only)

Miscellaneous Receipt

Original

Receipt No : REM431/2023-24
Receipt Date : 23-06-2023
Name : Sushmita Devi
Department Name : Ph.d Extns
Account Type : Research and Consultancy
Towards : Prof.CNR Rao Res.Center
Description : Design Expert Training Programme for
Home Science
(Rf.no 353056758123/19.06.23)
Mode of Payment : Cash
Amount : ₹ 50.00/-
(Received Fifty rupees only)

Miscellaneous Receipt

Original

Receipt No : REM430/2023-24
Receipt Date : 23-06-2023
Name : Rachael Alphonso
Department Name : Ph.D FSN
Account Type : Research and Consultancy
Towards : Prof.CNR Rao Res.Centre
Description : Design Expert Training Programme for
Home Science
(Rf.no 317000635670/19.06.23)
Mode of Payment : Cash
Amount : ₹ 50.00/-
(Received Fifty rupees only)

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P Anupri

Asst Coordin

Finance Officer

Director R&D

12/06/2023

Vice Chancellor

Date: 06.06.2023
Place: Coimbatore

Total Amount: Rs.1000/-

Recd
7/16/23 VC 101196
74/6/25

Suggestion given by participants

- It was very useful and had a wonderful session

- Good experience

- Practical session will help more to learn

- Great Experience overall

- would be interested even more detailed sessions

- Informative

- Could have added a session on Hands on training

- Practical session along with demonstration would have been more effective as it is new software.

Acknowledgement