



Remote Project-based Design Thinking Workshop in driving Patient Safety and Experience in Healthcare

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INTRODUCTION

The project-based Design Thinking (DT) Workshop is a programme designed to equip healthcare professionals with the knowledge and skills to drive improvement projects using DT methodology.

With the COVID-19 pandemic and safe distancing measures, the trainers had to review how we could facilitate and conduct collaborative project-based Design Thinking(DT) workshops remotely in order to ensure the continuity of improvement efforts in our healthcare setting.

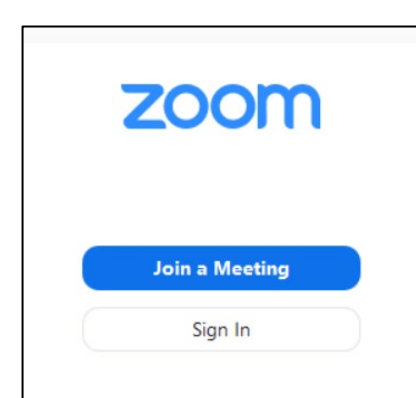
AIM

To evaluate the effectiveness of video conferencing and online tools in teaching DT methodology and tools as well as create a space for learners to collaborate and ideate as a team in a virtual platform.

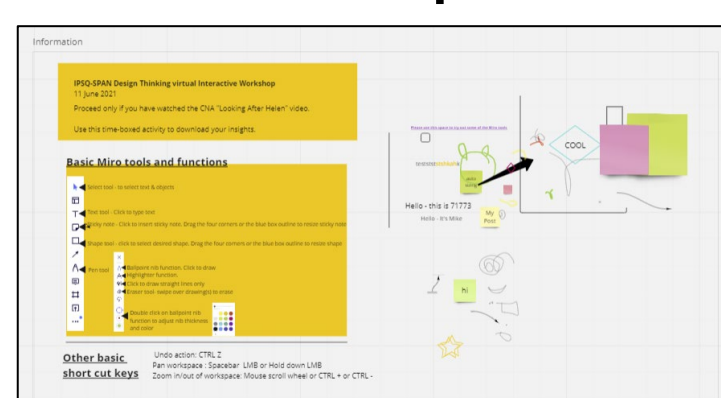
METHOD

IPSQ DT faculty explored various ways of conducting project-based DT workshops virtually.

The video conferencing platform (Pic 1), ZOOM, with incorporation of videos and breakout rooms to facilitate activities were selected as the main platform.



Pic 1: Zoom, a video conferencing platform

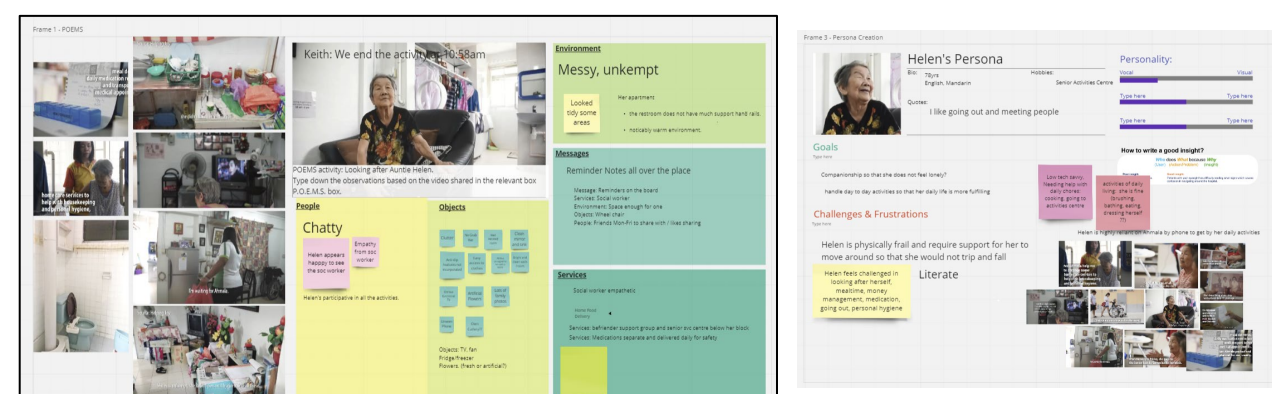


Pic 2: Miro, a secondary online collaboration tool for real time collaboration platform

A secondary platform (Pic 2), Miro, an online tool that enables real-time participation and content viewing for group activities and discussions. For the two pilot workshops, we had a main trainer and a facilitator with 6 participants in each workshop. A small class size was considered for a more guided and interactive session.

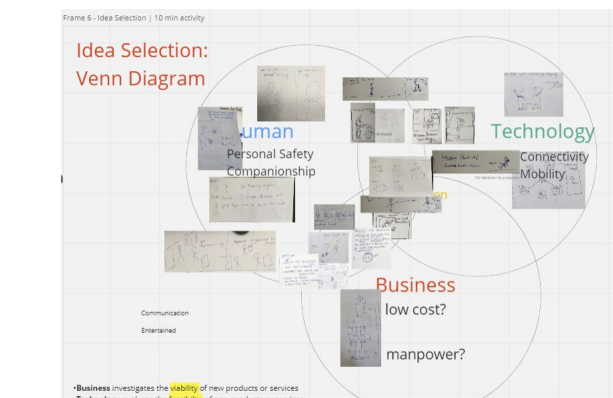
The workshops incorporated a three-part activity using video recordings and role-plays to demonstrate the application of a particular situation that mimics the project setting of the learners. The three-part activity allowed learners to practice the following tools set out in the curriculum:

- User Observations, User Interviews, Persona Creation, Insights writing and crafting of How Might We statements (Pic 3)



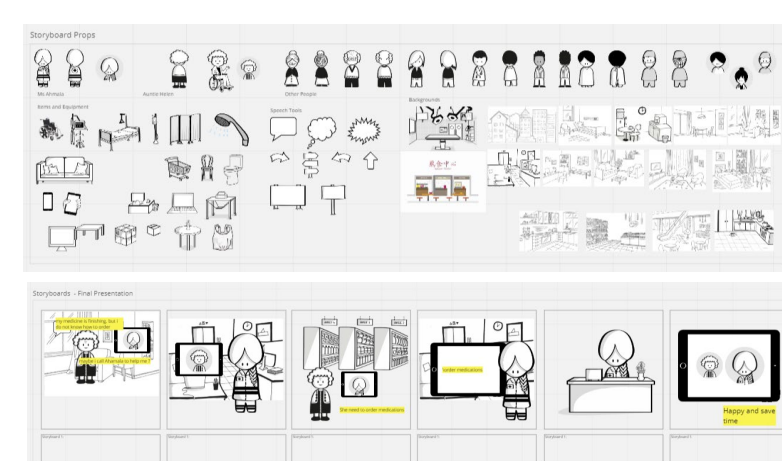
Pic 3: Audio and Visual template designed by IPSQ in Miro platform to enable application of User observation, User interviews and note-taking tool remotely.

- Ideation and Idea Selection (Pic 4)



Pic 4: Learners uploaded their sketches onto Miro platform designed by IPSQ to share their ideas, get feedback and shortlist one final idea to bring over to the next phase.

- Prototype using storytelling and gathering feedback (Pic 5)



Pic 5: Template and icons in Miro platform designed by IPSQ to assist learners to create storyboard for final sharing.

RESULTS

The approach showed good results. A total of 12 learners from SingHealth Patient Advocacy Network (SPAN) attended the pilot runs that took place on 11 June 2021 and 25 June 2021.

Pre- and post-workshop quiz scores

Knowledge was assessed with a pre-and post-workshop online quiz via Zoom polling function. The overall average scores of the pre-and post-workshop quiz increased from 75.8% to 89.2%, after learners attended the remote project-based DT Workshop.

Table 1: Wilcoxon rank-sum test for the pre-and post-workshop quiz scores.

Group	N	Mean Rank	Sum of Ranks	Z	p-value
Pre-workshop	12	9.58	115.00	-2.098	0.045
Post-workshop	12	15.42	185.00		
Total	24				

The difference between pre- and post-workshop quiz scores was statistically significant ($p < 0.05$), as summarised in Table 1 using the Wilcoxon Rank-Sum Test in IBM SPSS Statistics version 28.0.1.0.

Evaluation survey results

Evaluations to assess the attitudes and experiences of the learners were collected using FormSG immediately after the workshop. The attitudes measured include engagement, enjoyment, and the views of the participants on virtual interactive learning.

6 out of 12 learners (50%) submitted the evaluation. Based on the survey results, 50% ($n = 3$) of the learners felt that the workshop could substitute the face-to-face approach for project training during the pandemic, and 33% ($n = 2$) felt that the workshop could be a supplement to the face-to-face approach. This is summarised in Table 2.

Table 2: Results of the evaluation survey for the remote project-based DT workshop.

Disease Outbreak Situation	Situations	Response (% and count)		
		As a substitute	As a supplement	Not at all
Half of the learners think teleconference approach could substitute physical classroom approach for project training	Outbreak	50% (3 out of 6)	33% (2 out of 6)	17% (1 out of 6)
	Non-outbreak	17% (1 out of 6)	50% (3 out of 6)	33% (2 out of 6)

Table 3: Verbatim feedback

What did you like about this teleconferencing as a learning platform? (N=6)

- 😊 At least we learnt some skills.
- 😊 Great to be able to learn whilst in the midst of a pandemic
- 😊 It saves some time as against having everything F2F. It enabled us to get a taste of Design Thinking at a time when seminar room training is not an option. We were able to form a connection with the 2 instructors, as well as with some of the subject matter.
- 😊 Learn new tool and new experience
- 😞 I am not all for it especially for the activity parts.

Feedback gathered from the workshops were generally positive (Table 3). While most learners preferred face-to-face interaction where possible, the virtual approach using video conferencing was a strong substitute to achieve effective discussions.

The learners felt that remote project-based training was necessary, as social responsibility and safety take priority under pandemic circumstances.

CONCLUSIONS

The impact of the COVID-19 situation has affected how we work during a pandemic situation and digital learning and project facilitation will remain integral and relevant in the future. The 2 sessions conducted with SPAN advocates had shown to be effective in teaching DT methodology and tools.

The virtual project-based collaborative workshop was a good alternative to physical face-to-face classroom teaching to increase knowledge and application of tools in improving patient safety and experience in healthcare during pandemic situation.

All virtual zoom DT workshops and project-based DT workshops had been returned to physical workshop since Singapore government reverts to DORSCO Green in Feb 2023.

ACKNOWLEDGEMENT

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