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Designing Community B40 Upskilling Spaces in Malaysia on Spatial Narrative, Social Interaction, and Visitor Experience

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Abstract: *This paper shows how the B40 community upskilling spaces in Malaysia can be part of employability, lifelong learning, and the aspiration towards social mobility for economically disadvantaged communities. They are part of a national lead 'inclusive growth and skills up-lift' campaign, and as such the Interior Architecture design within these spaces is more than training; instead, also providing spatial narratives, social infrastructures and user experiences. Unlike formal vocational or educational institutions, B40 upskilling community spaces would have to simultaneously respond to a range of learning needs, informal skills transfers and community participation needs in a place that fosters pride, agency and social belonging. The function of these spaces is largely shaped by the extent to which learning space strategies are generated within their interior, in response to learning processes, community and empowerment. This paper attempts to examine spatial design of B40 community upskilling spaces in Malaysia, with focus on their spatial layout, zoning strategy, social interaction nodes and environment quality that contribute towards user and visitor experience. Utilizing a qualitative inquiry, the study explores community-based B40 upskilling spaces through semi-structured interviews with users, facilitators and designers and user experience feedback. Findings reveal the organization approach of cohesive spaces, zoned functions and well-planned contested spaces have a strong contribution to provide orientation, engagement and peer interaction. Informal collaboration spaces and flexible training stations throughout the space, combined with sensory-rich interior elements encourage co-skills learning and community participation. The study suggests design recommendations, that focused on narrative clarity, social interaction and flexible space; and inclusive design characteristics of B40 section in promoting community engagement.*

Keywords: Community Upskilling Spaces; B40 Communities; Spatial Narrative; Social Interaction; Visitor Experience

1. Introduction

Community upskilling settings are considered as significant infrastructures that help lifelong learning, workforce development and social empowerment especially for low income and marginalized people (Nor et al., 2025). In Malaysia, B40 community endure longstanding issues pertaining to access of education, job opportunities and skills. As a result, several government agencies, NGOs and community groups have developed upskilling centres offers

basic skills like entrepreneur education vocational training courses or informal learning opportunities (Gupta & Datta, 2023). Although these projects attend to economic concerns, the spatial and experiential characteristics of such sites are under-represented in interior architecture literature. Educational contexts are increasingly acknowledged to be not only the things in which teaching takes place, but things that teach, impacting on motivation, engagement and social cooperation. As a result, it is time to understand how spatial design can contribute towards successful community upskilling (Quintanilla et al., 2024).

There is an emergence of these B40 upskilling initiatives at the community scale in Malaysia, however scholarly literature and guide to design on how interior architectural strategies may contribute to facilitation of successful B40 upskilling environments are glaringly missing. In learning centers that are currently available, the focus is rather on service provision than spatial stories, experiential learning or social interaction. Additionally, there is a lack of empirical material that can be used to study well-designed community B40 upskilling spaces and see how it relates to the findings above, with consequent patchy understanding of best practice. Without a remembrance of B40-specific design framework, there are imbalances in space quality and inclusivity and desired user experiences. This study addresses that gap by examining the ways in which spatial narrative, interior organization and experiential character contribute to learning and empowerment within community B40 upskilling spaces.

This study attempts to look into how spatial organization and interior layout strategies being utilized B40 upskilling spaces, in promoting the community learning among Malaysian B40s, and then how these arrangement of space potentially contributes in facilitating the process of learning and community building. It is also looking at how spatial narrative and social economy play a part in appropriate user experience of the users through an inactive play of mobility, zoning and informal social nodes that guide the movement while creating for participation and places. Lastly, the research also seeks to understand critical learning barriers in such environments that impact on engagement, inclusiveness and effective delivery of learning experiences. Based on the empirical findings, the paper eventually offers interior architectural design suggestions for B40 communities in Malaysia while offering strategic direction to the general spatial quality and user experience requirement of community upskilling spaces.

2. Literature Review

2.1 Community B40 Upskilling Spaces

These are known as up-skilling spaces in community B40, spaces of informal or semi-formal learning that has been purposely designed to enrich vocational skills, entrepreneurial capability and the social resilience of poorer and more economically vulnerable populations (Read et al., 2013). Far from formal educational institutions, these places are characterized by a commitment to accessibility, flexibility and community-based programmes which directly address local socio-economic disparities (Suharto et al., 2021). They are among the ingredients identified in the existing literature that signal how they contribute to reducing income inequality, enhancing employability skills and self-reliance among B40 communities (Gupta & Datta, 2023). Nonetheless, most researches focus on policy framework, training content and economic outcome while very less literature available in terms of how spatial arrangement and interior architectural designs contribute to learning effectiveness, dignity and continuous B40's engagement at upskilling environments (Ainley, 2020).

2.2 Spatial Narrative in Interior Architecture

Notational narrative depends on the architectural and interior's ability to accommodate meaning, order experience, and direct user movement through including sequences, transitions or spatial hierarchy (Austin, 2020). In interior buildings a spatial narrative is built via space zoning, thresholds, material articulation, lighting design and spatial circulation (Rowe & Chung, 2023). Thanks to the characteristics of this design, they can further comprehend the space by intuition and at last decrease many psychological thresholds and sense that they are welcome and included (Kassem, 2019). In B40 upskilling spaces, spatial narration is important for forming first impressions, in minimizing feelings of intimidation regarding learning spaces as well as to prop other race's confidence levels for the heterogeneous users (Wheele et al., 2023). However, the influence of spatial narrative in B40-based community upskilling spaces has yet to be explored further or thoroughly in areas such as empowerment and social inclusion (Austin, 2020).

2.3 Visitor and User Experience in Learning Environments

Visitor and user experiences in learning environments include emotional, cognitive, and social responses to space based on comfort, accessibility, legibility, sensory quality (Mäkelä & Leinonen, 2021). Research into experiential and informal learning settings highlights a need for flexible space utilization and informal interaction areas, in addition to inclusive design, when looking to promote collaborative group activity or peer-to-peer learning (Woolner & Cardellino, 2022). For B40 communities, supportive user experience is crucial as spatial discomfort, poor accessibility and institutional climate may hinder participation and sustained involvement (Wilson & Cotgrave, 2016). Thus, designing of learning contexts that allow for dignity, ease of access and sociality is vital in order for B40 upskilling spaces to continue being accessible, effective and sustainable parties' livelihood avenues (Cacicio et al., 2022).

2.4 Malaysian B40 Context

In Malaysia, the collectivist and mutual support values also has determine how shared spaces are perceived and being utilized (Stephen et al., 2021). Communities in B40 strata often rely on shared spaces for education, social interactions and commercial activities making spatial quality and inclusivity essential attributes. But most the existing B40 upscaling facilities are designed from a conventional building type without paying enough attention to the cultural behavior, user diversity and experiment design quality. Allocational resources and inflexible typologies additionally limit the effectiveness of these spaces. Thus, the comprehension of the B40 Malaysian socio-cultural and economic context is very important in shaping interior architectural strategies that are inclusive and culturally responsive to allow for meaningful learning as well as community empowerment (N et al., 2022).

3. Methodology

This study conducted through qualitative research method aims to explore the spatial architecture dimensions of B40 community upskilling spaces with an emphasis on spatial narrative, social interaction and visitor experience. This approach is of interest, since it gives the opportunity to deeply investigate spatial significations and the way people perceive a space, as well as experiential qualities which cannot be covered by quantitative method. Grounded in a concern for thick, rich and descriptive data and for participant voices, the study also seeks to reflect on how interior spatial strategies can influence learning engagement as well as social interaction and empowerment within the context of B40 group.

Data was collected through purposive sampling where the participants were chosen due to exposure and for their insight about the B40 upskilling spaces in community. Participants involved three facilitators from management or program delivery in community B40 upskilling spaces and three interior designers with industrial knowledge/experience about designing and adapting learning space for community or low-income settings. The participants invited to the study are responsible for spatial planning, design decision-making and facilitate programme, was because in this way access could be provided to experts' opinion regarding implementation of the spatial narrative, design notion along with operational challenges. Moreover, visitor satisfaction data came from 20 users in the identified community B40 upskilling spaces to provide a perspective on user experience, comfortable space, accessibility and satisfaction. The visitors had been sampled on the premise that they were upskilling, and thus reflections of encounters could be assumed to be reports of learning rather than casual or haphazard tours. The triangulation of expert and user perceptions enabled the credibility and confirmation of data.

Thematic analysis of interview transcripts and visitor comments enabled emergent patterns and themes to be inductively derived from the data. This approach allowed for the identification of common threads that emerged in spatial narrative, social interaction, inclusivity and user experience. From the visitor feedback questions, data was examined further by utilizing textual narrative analysis including simple descriptive statistics to identify broad patterns of satisfaction, engagement and spatial usability. A mixture of the themes and descriptive analysis made it possible to have an overall look at how interior architectural strategies affect learning environment in upskilling community B40 spaces.

4. Results

4.1 Facilitators' Interpretation of Spatial Narrative in Community B40 Upskilling Spaces

In this subsection present the results of three facilitators' perceptions on spatial narratives within a community B40 upskilling space.

The results reveal high levels of agreement by facilitators for all B40 community upskilling spaces; they unanimously agree with all aspects of the spatial narrative effectiveness in conveying spatial clarity, supporting learning, diminishing intimidation and overall effectiveness. These findings indicate that coherent spatial and narrative structure increases overall participant confidence, orientation and engagement with the system, this is particularly salient for B40 groups who may have less experience in formal learning situations. However, elements concerning social interactivity and responsiveness to B40 community needs were rated slightly below high at 66.7%, suggesting that while informal interaction spaces exist, spatial manipulation could be increased in place of these facilities implication while the result indicates adaptability is still available for moderate flexibility, there should also be context given to the style of manipulable devices introduced. This further supports a design principle for interior architectural strategies that set up clear spatial narratives, and offer flexibility to accommodate multiple learning styles, group sizes and community functions. In general, the feedback from the facilitators endorse spatial narrative as a pragmatic and design experiential tool to create inclusive and dignity-based community B40 upskilling environments that work.

Table 1, shows the facilitators' perspectives on spatial narrative in community B40 upskilling spaces.

Table 1: Summary of Facilitators' Responses on Spatial Narrative Interpretation in Community B40 Upskilling Spaces

No.	Aspects	Description	Responses Statement	Number of Positive Respondents and Percentage (%)
1.	Spatial clarity and legibility.	Ease of understanding layout and circulation.	Clear zoning and legible layouts help B40 participants navigate the space confidently.	(3) 100%
2.	Support for learning activities.	Spatial configuration supports training and workshops.	Well-organised spaces facilitate effective delivery of skills training and group activities.	(3) 100%
3.	Encouragement of social interaction.	Informal spaces promote peer interaction.	Shared areas encourage communication and peer learning, though flexibility could be improved.	(2) 66.7%
4.	Reduction of intimidation and anxiety.	Spatial narrative creates a welcoming, non-institutional atmosphere.	A friendly spatial atmosphere helps participants feel comfortable and willing to engage.	(3) 100%
5.	Responsiveness to B40 community needs.	Design reflects community values and practical needs.	Spatial design generally supports community learning but requires greater adaptability.	(2) 66.7%
6.	Overall effectiveness of spatial narrative.	Spatial narrative enhances engagement and participation.	Spatial storytelling positively contributes to the overall learning experience.	(3) 100%

4.2 Designer Perspectives on Spatial Narratives Interpretation

In this subsection discussed are the perspectives of three interior designers who focus in crafting and adapting learning environment strategies based on community B40 upskilling spaces.

The results reveal a very strong agreement between the designers in the strategies of adaptive learning environment for B40 community upskilling spaces. All the designers collocated to a very strong agreement to 100% regarding the relevance of spatial flexibility, layout planning according to people needs and support for informal and collaborative learning in order to increase their involvement with the tool as well as tool usability. Flexible interior design it appears, is very helpful in B40 environments since the spaces have to become versatile as they often accommodate a variety of users, different programmes and differing group sizes. Nevertheless, the dimensions of public space and mutual adjustment for socio-economic limitations offered less positive answers 66.7%, too. Designers reported that while social nodes were considered theoretically crucial, space and budget limitations, and the scale of buildings generally made it challenging to fully develop such a specific focus through practice. This finding illustrates the discrepancy between design aspiration and actual practice in B40 housing schemes. Overall, the conversation with designers echoes the demand for flexible and user-centred interior architecture strategies; however, it also reveals that down-to-earth local solutions can quickly shift between flexibility, inclusivity and material means in a design project of community B40 upskilling spaces.

Table 2, shows the designers' perspectives on learning environment adaptation in community B40 upskilling spaces.

Table 2: Summary of Designers' Responses on Adaptive Learning Environment Strategies in Community B40 Upskilling Spaces

No.	Aspects	Description	Responses Statement	Number of Positive Respondents and Percentage (%)
1.	Spatial flexibility and adaptability	Ability of spaces to support multiple learning activities and group sizes	Flexible layouts allow spaces to be easily reconfigured for workshops, training sessions, and community activities.	(3) 100%
2.	User-centred layout planning	Design prioritises comfort, accessibility, and ease of use	Layouts are designed to be intuitive and welcoming, especially for first-time B40 users.	(3) 100%
3.	Support for informal and collaborative learning	Interior design encourages peer learning and interaction	Open and shared spaces promote collaboration and skill-sharing among participants.	(3) 100%
4.	Integration of social interaction zones	Inclusion of informal gathering and discussion areas	Social nodes are effective but could be enhanced with more adaptable furniture and layouts.	(2) 66.7%
5.	Responsiveness to B40 socio-economic constraints	Design considers budget limitations and practical needs	Designs generally respond well to B40 contexts, though financial constraints limit some design intentions.	(2) 66.7%
6.	Overall effectiveness of adaptive design strategies	Design strategies enhance learning engagement and usability	Adaptive interior strategies contribute positively to the overall effectiveness of upskilling spaces.	(3) 100%

4.3 Visitor Perspectives on Spatial Narratives Interpretation

This subsection showcases feedback from 20 B40 users and visitors who participated in a community upskilling initiative.

The results show that the overall satisfaction of B40 users in community upskilling spaces are high, specifically for spatial layout clarity, learning engagement and the overall learning experience which all have a percentage of more than 90% positive response. This data suggests that a readable arrangement of space and consideration for the interior environment is important to how confident and engaged users feel, not least those who have had little exposure to a designed formal learning setting before. Comfort and socializing followed very closely behind with 85% and 80%, demonstrating that good interior space design were not only conducive to learning but social interaction with peers, community bonding too. Nevertheless, the use of access is least 75% and inclusive designing may require some more work to be done on it for elderly and physically disable users. This suggests even if the current designs are effective, more attention to promoting universal design principles, and interactive learning components would enhance their experience. These general perspectives back up the finding that interior architectural interventions do contribute to influencing how B40 users 'see, feel and move' within community upskilling spaces. These findings add to the evidence base of user-centred, participatory and socially responsive design strategies to inform productive learning environments that sustain empowerment and continued community engagement.

Table 3, shows the B40 users' perceptions of spatial layout and environment experience in community upskilling spaces.

Table 3: Summary of B40 Users' Responses on Spatial Layout and Environment Experience in Community Upskilling Space

No.	Aspects	Description	Responses Statement	Number of Positive Respondents and Percentage (%)
1.	Spatial layout clarity	Ease of understanding spatial arrangement and movement	The layout is clear and helps users move between learning areas without confusion.	(18) 90%
2.	Lighting quality	Adequacy of natural and artificial lighting for learning activities	Lighting is sufficient and comfortable, supporting focus during training sessions.	(17) 85%
3.	Ventilation and thermal comfort	Perceived air circulation and thermal comfort	The space feels generally comfortable, though ventilation could be improved in some areas.	(15) 75%
4.	Overall physical comfort	Seating comfort and overall interior ambience	The environment is comfortable and suitable for extended learning activities.	(17) 85%
5.	Accessibility and ease of use	Ease of access for different age groups and physical abilities	Most areas are accessible, but certain zones require improvement for elderly or disabled users.	(16) 80%
6.	Support for social interaction	Opportunities for interaction and peer learning	Shared spaces encourage communication and skill-sharing among participants.	(16) 80%
7	Overall learning experience	Overall satisfaction with the learning environment	The space provides a positive and motivating learning experience.	(19) 95%

5. Discussion and Conclusion

5.1 Spatial Narrative as a Catalyst for Confidence and Learning Engagement

The findings from this study also serve to reveal just how significant spatial story is, in terms of understanding what and how B40s sense make, travel into and encounter community upskilling spaces. Space is clarity; the simple, intuitive spatial storytelling of legible zones with easy transitions diminishing confusion and alienation often found in institutional spaces. More importantly for many of the B40 students, who perhaps do not have large experiences with formal institutional spaces in their lives to date, and who are also going to be hanging out in these fixed personal learning school times; this kind of spatial legibility would produce a form of security and dignity that will facilitate engagement with meaning-making. These findings provide evidence that spatial narrative is not simply a stylistic or concept armature but an effective design strategy with potential pedagogical implications for preparatory readiness and comfort in anticipatory learning.

5.2 Social Interaction Zones and Community Ownership

The findings also highlight the nature of social space in supporting group learning and building a sense of collective community ownership. Shared spaces, project rooms and flexible social areas that were used by facilitators, designers and participants to take advantage of peer-led learning, knowledge sharing and mutual support. Whilst the latter is undoubtedly important it is to be hoped that within these B40 upskilling spaces, learning can and does occur socially, rather than simply being taught in an instructional manner. These temporary sites of informal

socialization are like upskilling boutiques where vocational tools are transformed into sociable havens of community identity and ongoing relationship.

5.3 Environmental Comfort and Inclusivity in B40 Learning Spaces

Elements such as lighting, ventilation, thermal comfort and penetrance were considered to be closely related to user experience and learning engagement. For the most part, comfort and environmental quality over-all were acceptable to subjects although exceptions appeared for some indices, such as ventilation or access to building facilities indicating that inclusion is only partially accomplished. In B40 communities, inclusive design makes even more sense as the user base comes in a whole spectrum of age-groups, physical fitness and abilities, to education-status bracket. The findings emphasized the value of interior architectural solutions based on universal design that support learning environment space ecology that should be convenient, easy going and dignified for all types of users.

5.4 Design Constraints and Socio-Economic Realities

Nonetheless, several constraints emerged in the form of more overarching socioeconomic limitations experienced by B40 upskilling spaces within the community. The restricted budget, the re-generation of an old buildings and the exploitation of a narrow space do not permit to make perfect projects at all. Designers and facilitators highlighted trade-offs between flexibility of space, comfort, social activity and available resources as major priority recipients. This serves to emphasize the need for relatively low-cost, contextually influenced design interventions that address significant experiential aspects without needing expensive or complicated alterations.

5.5 Towards Inclusive and Experience-Driven Interior Design Approaches

Cumulatively, these findings suggest the work that must be done for an inclusive, participatory and experiential interior design approach to community B40 upskilling space design. Social interaction behaviors and spatial narration may sooner or later be deliberately interwoven with environmental comfort and cultural sensitiveness, since they all affect the learning environment. Designing spaces in consultation with participants and organisers could lead to events held within a cultural particularity and the subsequent new contexts cultural specificities built up as they respond selectively to feedback from within different communities. By incorporating social-economic reality with interior architectural strategies, designers may significantly contribute to empowerment, lifelong learning and social sustainability in the B40 community.

5.6 Conclusion

This study discovered that elements of architectural interior approach lead to government retention over B40 upskilling community spaces in Malaysia. The result indicates that thoughtful spatial narratives and open-ended interior build-ups as well as social spaces can encourage a sense of learning engagement, confidence and empowerment for B40 users. Usability, socialization and playfulness for different learning activities emotionally designed indoor features that serve as base of function-train system for a pedagogically well-balanced user-centred learning unit. This research serves as a timely reminder of the role inclusivity and experience-led design play in the evolution of community upskilling spaces in a context, where interior architecture plays an instrumental role for social sustainability, life-long learning and local community building under B40 conditions. Figure 1, proposes a conceptual visualization of a community B40 upskilling space lobby and reception area in Malaysia. The spaces are designed to be inclusive, modern, and welcoming; supporting learning, social interaction, and empowerment through thoughtful spatial narrative. Figure 2, proposes a conceptual

visualization of a community B40 upskilling space in Malaysia. They feature distinct functional zones; service station, dining area, care area, social area, and working areas; arranged in a welcoming open-plan layout.

Figure 1: Conceptual Visualization of a Community B40 Upskilling Space Lobby and Reception Area in Malaysia, Designed for Inclusivity and Social Empowerment.
Source: Author 2025

Figure 2: Conceptual Visualization of a Community B40 Upskilling Space in Malaysia Featuring an Inclusive Open-Plan Layout with Functional Zones.
Source: Author 2025

6. Research Contribution

This research has extended interior architecture in providing academic contribution to the operations of spatial narrative, social interaction and user experience that is related specifically with the community-based learning spaces especially to B40 in community upskilling space. The study, concentrating on community upskilling spaces, also fills a critical gap in academic research, which has given greater emphasis to policy driven; economic impact-related or pedagogy led conceptualizations at the expense of spatial and experiential ones. Results provide field evidence on the impact of interior interventions in learning engagement, confidence, and social empowerment with economically disadvantaged users. In this way, the

paper situates spatial narrative as a practical and experiential design methodology that develops the theoretical discussion in user-led and socially-focused interior environments within low-income and sector contexts.

7. Practical Contributions

Practically speaking, the findings provide architects and interior designers and those involved in facilitating urban renewal programs that arm communities with skills through their material presence. The proposed set of design references aims to underpin the notion that in designing upskilling spaces within B40 environment, designed both inclusively and for dignity they are to be portrayed as effective through narrative clarity, spatial versatility, social congregational pockets and ephemeral comfort. These findings may impact the development, modification and enhancements to existing programs and new community-based training locations. Based on the socio-economic profile and experiential demand of B40 communities with whom interior architectural strategies are grounded upon, it is recommended that upskilling spaces are developed as; learning rather than learnt space; continued practice rather than disposable opportunity; community ownership and agency building mechanisms; socially sustainable practices.

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Conflict of Interest Statement
The authors declare that there is no conflict of interest regarding the publication of this study.

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