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The Human Brain Learns, The Classroom Doesn't

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Abstract

This article examines the systemic disconnect between institutional higher education and the cognitive architecture of the human brain. Through the lens of a vivid, sensory rich field trip to Purani Dilli (Old Delhi), the authors juxtapose the lasting impact of experiential learning against the passive retention from conventional lecture-based instruction.

It argues that the modern classroom with standardized layouts, rigid schedules, and one-way transmission of information is a relic of the Industrial Revolution, designed for control and efficiency rather than for deep meaningful learning.

Drawing on neuroscience, developmental psychology, and learning theory, the article demonstrates that natural learning is multimodal, social and context dependent. It highlights the central irony within design education itself, where students are taught to innovate within a system that itself resists innovation.

In response, the authors propose a shift towards the concept of Brain Ergonomics: the intentional design of learning environments that align with the cognitive, emotional, and social ergonomics of the human mind. It proposes a shift away from the systems historically structured around control, standardization, and efficiency, and toward an educational system grounded in how humans naturally learn.

Introduction

To where it all began, in our third semester, our interaction design professor told us to observe Old Delhi (Purani Dilli) in groups of 2-3, for this task the main goal was to abstract the essence of the place using all of our five senses - sight, smell, touch, taste, sound - alongside our 'gut feeling' as well as our instincts. Besides observing the architecture, the market crowd, absorbing the chaos, the history we were also asked to talk to people in that environment. We became sponges.

Pondering upon our experiences, we remember so much more of that particular field trip than we ever did of any other class or what we had for dinner last night. The paradox on how students are able to retain and grasp onto information they collected during their field trip rather than the months of learning they did in a traditional classroom, the fact that the brain is able to learn things effectively through lived experiences rather than a classroom which is supposedly designed for learning. This was a fundamental difference in how memory is encoded. This made our thoughts wonder how babies learn full languages without using any textbook, grammar lessons, tests, or classrooms as the formal education usually seems to be relying deeply on a standard structure and control.

This article is a small insight of our thoughts and opinions on how education, especially higher education should be designed in a way human brains naturally work, rather than forcing the brain to adapt to standard rigid systems. We termed this as **Brain Ergonomics: Designing learning environments that fit the cognitive, emotional, and social ergonomics of the human brain. It asks us to move beyond systems built on control and create education systems that**

align with how the brain naturally learns. The truth is that the education system we see today is not failing at its job yet it is succeeding at the job it was originally created to do. Built for control, standardization, and efficiency, not for individuality, creativity, or deep thinking. And until we question its foundation, classrooms will continue to struggle to produce the kind of learning they claim to value. Education systems must evolve to align with how the brain learns, or they will fail to remain meaningful. Ultimately, the brain determines what is truly learned.

The Central Paradox: How Classroom Spaces Shape Passive Learning

In today's day if we walk into any conventional classroom, you are greeted with a physical arrangement that communicates through one-way transmission of information, not conversation. The desks are arranged in uniform rows and columns, all facing one direction implying a clear idea of how knowledge in that space flows in only one way, from the speaker to the passive compliance.

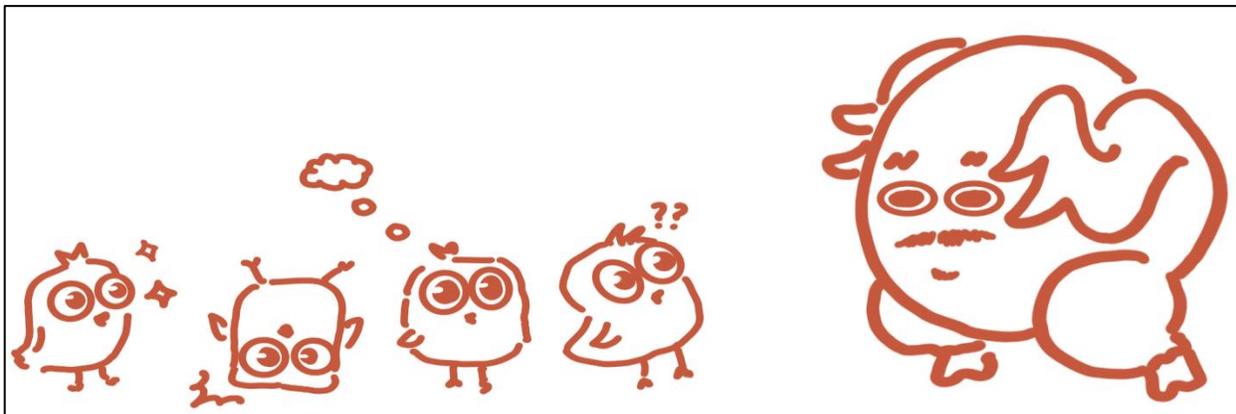


Fig 1: Four chicks gaze with wonder at a cooked chicken. The image presents a satirical commentary on the education system that transforms raw curiosity into a pre-determined product.

In a subtle way, the physical layout of the classroom defines the role on how one speaks and others receive. Learning in such spaces is equivalent to listening considering delivering information doesn't ensure understanding.

Time, Rules, and Control

Time is divided into uniform blocks, signalled by a bell which is neither empathetic towards the depth of discussion or the level of the student's concentration on the lecture. Movement is restricted, as students are required to remain seated in their designated places unless given permission. Set rules often unspoken; listen more than you speak, follow the present path of the curriculum, and value the questions in the back of the book over the question forming in your own mind.



Fig2: A chick is trapped in a rigid playpen, a 40-minute timer looming over its head. This illustrates the constraints of the traditional classroom, where natural exploration is confined by standardized time blocks and physical barriers.

Learning here doesn't move with curiosity but with the emphasis on completing the syllabus in a set timeline while assessment becomes the primary focus. A student's "why" is often met with "because it's on the syllabus" or worse, a silencing glance. Amid all this, the grading system isn't just killing curiosity, it's hunting it down systematically.

Surprisingly, it seems that the human brain hasn't evolved enough to do wonders in a 40-minute span of uninterrupted sitting. Moreover, simply gathering a group of students in a four walled enclosed space called classroom, doesn't guarantee learning. This leads us to look beyond the present and examine the roots of the system itself, asking why classrooms came to be structured the way they are. These conditions all together not only shaped the curriculum and educational policies, they also shaped the physical environments in which learning was expected to occur. Its roots lie not in the science of learning, but rather in the social, political, and economic conditions under which mass schooling was first developed.

Historical Perspectives on School Architecture

As historians Catherine Burke and William Whyte (2021) argue, school buildings have long been understood as more than simple containers for education. Rather, "it is widely accepted that buildings are never neutral containers and their design powerfully shapes behaviour." supporting the belief that classroom design influences how students act, move, and participate. This belief is not new. As the Victorian headmaster Edward Thring famously stated, "the almighty wall is... the supreme and final arbiter of schools." His words reflect a broader nineteenth century conviction that school

spaces were built not just to support learning, but with the belief that architecture could influence not only learning but society itself.

Nineteenth-century school buildings were seen as “symbolic of social and educational reform,” with a belief that changing school space could change the society itself. The physical structure of the classroom, the rows, walls, fixed positions was historically tied to supervision and standardisation rather than curiosity or exploration. Schools were described as “sermons in brick” which depicts the belief of how building spaces were meant to teach values, discipline and mould the society and citizen’s civic character through this structure.

This system developed alongside the industrial revolution, where efficiency, order, and control were highly valued. Bells signalled time just like factory shifts, rows resembled assembly lines, and uniform curriculum allowed large numbers of learners to be instructed in the same way. The goal was not to nurture curiosity, but to produce disciplined, punctual, and obedient workers who could fit into an industrial economy. Although society has since changed, the classroom system has remained practically unchanged even after all these times.

THE COGNITIVE ARCHITECTURE OF LEARNING

Nature of learning

Outside the classroom, life has evolved in countless ways, but inside it, the basic system remains strikingly familiar. This contrast naturally leads us to think what does it really mean to learn?

Learning is not simply the acquiring of information or the repetition of facts. Rather, it involves an active process in which individuals

engage with ideas, interpret experiences, and build understanding. In this sense, learning can be understood as the acquisition of knowledge through reasoning (Schneider, 2024). Seen this way, learning is dynamic rather than static. It happens through doing, sensing, discussing, reflecting, and relating ideas to the experiences. At its most basic, learning is how organisms adapt. From the moment a baby is born, it is ready to learn and is in fact learning every moment as their life progresses, just by passively absorbing information rather than by actively forming connections with whatever they come across with their five senses.

Piaget's Theory

Jean Piaget's theory of cognitive development proposed that children actively build their understanding of the world by interacting with their environment and are active constructors of their own understanding. (Piaget, 1952). As they grow, they organize their experiences into mental frameworks, which he called *schemas*. (Piaget, 1952). When children encounter something new, they either connect it to what they already know or adjust their understanding to include the new experience. (Piaget, 1952). (refers to assimilation and accommodation) Through this continuous process, their thinking gradually becomes more advanced. Thus, learning for Piaget is not merely the accumulation of facts, but the gradual restructuring of thought as children actively interact with and adapt to their environment. (Piaget, 1952). This process of cognitive development unfolds through two driving forces, biological maturation (the natural unfolding of neurological capacity) and continuous interaction with the environment.

decontextualized instruction. Experiential learning, in this matter, structures the learning around situations that require them to think, act, and reflect by engaging both mind and body in the learning process. This form of learning often involves active participation in doing tasks, problem-solving in real world contexts, interacting with others, and reflecting on the experience.

Our Old Delhi (Purani Dilli) field trip was one such moment - an example of experiential learning that became a lasting memory because it bypassed the traditional classroom's limitations. We weren't learning about the place but learning within it. The city and its interactions became the curriculum. The smells, sounds, textures, and social interactions weren't distractions from learning, they were the learning. No one told us what to notice. We followed our curiosity and observed things around us. If a shop upfront looked interesting, we explored it. If it looked interesting, we explored it.

This curiosity led exploration activated our attention and motivated us in ways passive listening could never. Learning did not happen individually, we talked through our observations, compared our perspectives and built an understanding together. There was no test, no grade. Our motivation to learn was intrinsic, the desire to understand, experience, and to embody what we were observing and to build a meaning from it. After reflecting on our experience, we realised looking back on it that we remember so much more of that particular field trip than we ever did of any other class or what we had for dinner last night.

Experience Leads to A Lasting Memory

This difference in memory is not accidental, it aligns with what neuroscience tells us about how learning occurs. During an experiential learning, learners encode experiences through visual, auditory, and kinaesthetic channels simultaneously a multimodal sensory engagement creates dense networks of associations, making memory traces more stable and easier to retrieve.

The theory of embodied cognition helps explain this process. It suggests that thinking is not confined to the brain alone but is deeply shaped by the body's interactions with the world. Movement, gesture, posture, and physical engagement all contribute to how we understand and remember.

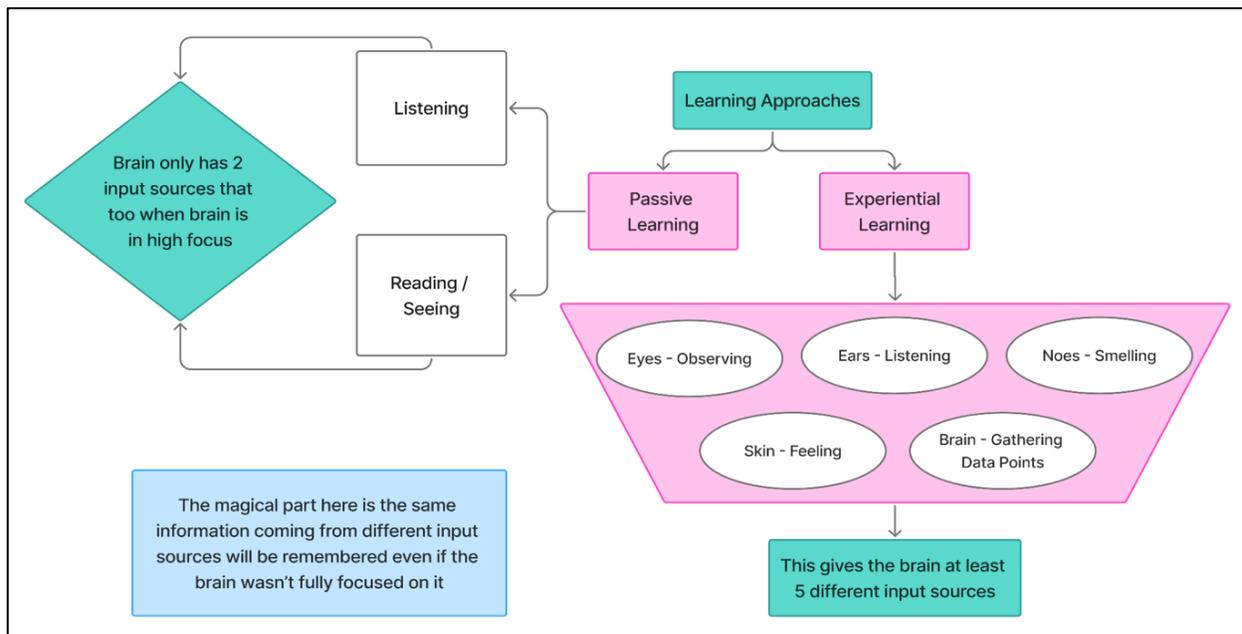


Fig.4: A flowchart contrasts cognitive input: passive learning funnels only two narrow streams (listening, reading) into the brain, while experiential learning floods it with five rich, simultaneous streams (sight, sound, smell, touch, active gathering) weaving a dense web of understanding.

Closely related is the idea of situated learning, which proposes that knowledge is inseparable from the context in which it is formed. Understanding develops through participation in real environments shaped by social interaction, physical surroundings, and cultural practices. Our experience in Old Delhi (Purani Dilli) was not abstract or detached, rather it was embedded in a living, dynamic setting. The environment, the people, and the cultural atmosphere with the chaotic sensory experiences became a part of the learning itself, linking knowledge to real situations that enhanced memory, making it easier to recall it later. The fact that our most vivid educational memory comes from outside the classroom reveals the obvious misalignment in the system. This suggests that a classroom should not be defined merely as a four-walled space where information is delivered.

The “Third Teacher” and Cognitive Mismatch

A classroom is simply a physical environment; it becomes a place of learning only when it supports curiosity and interaction. This idea aligns with Loris Malaguzzi’s description of the environment as the “third teacher,” alongside adults and peers, emphasizing that space itself actively shapes learning (Malaguzzi, 1998). The design of a space influences how learners move, engage, and think, determining whether learning becomes passive or participatory.

Yet many traditional classrooms are structured in ways that work against the brain’s natural learning processes. Prolonged sitting hours, one-way instruction, and heavy reliance on abstract information place excessive demands on working memory, often leading to cognitive overload rather than meaningful understanding.

If learning is shaped by movement, emotion, interaction and context, then educational systems must be designed in alignment with how the brain works, rather than expecting learners to adapt to inflexible structures.

Learning Creativity using Colouring Books

There is a rich irony simmering in design schools. Students arrive eager to practice creativity, human centered thinking, and innovation problem - solving. Their coursework urges them to 'break the mould,' Yet from day one the educational structure gently then firmly suggests they first learn to sit neatly one facing forward, in a standardized box.



Fig.5: Chicks enter a conveyor belt system and exit as a cooked chicken. The illustration depicts that if the educational system remains unchanged it will continue to shape individuals' thinking into standardized forms.

These budding designers are taught to prototype with empathy for their future users, all while navigating a system that often displays a curious lack of empathy for its own. They spend time in the studio,

where 'failing' is a celebrated part of the process. Then they march to another hall to take a multiple-choice exam, where failure is not a step forward but a mark of error. They are being trained to design intuitive, human experiences for the world, while their own academic journey can feel like it was engineered by a committee more fluent in spreadsheets. It is, one might say, similar to teaching chefs in a kitchen where all dishes must be cooked at the same temperature regardless if they work or not.

This disconnect is not a minor flaw. It is the logical outcome of a fundamental mismatch. Contrast this to the vivid learning from a field trip - where understanding is built through conversation, sensory experience, and genuine curiosity with the passive receipt of information in a lecture hall. One approach aligns with how the brain naturally learns through experience, story, and emotion. The other, shaped by an old logic of standardization and control, seems to work against it.

Consequently, the most profound learning often happens not because of the traditional classroom, but in spite of it. The institution promises to teach creative and systemic thinking, yet it frequently employs a pedagogy that is, itself, uncreative and systematically rigid. The degree program speaks of fluidity but operates through rigidity. It promotes design thinking while being confined within a rigid institutional mould. Until the learning environment itself is redesigned to adapt to the human mind, rather than forcing the human mind to comply with the educational blueprints from the past.

Conclusion

What began as a simple field assignment in Old Delhi (Purani Dilli) unfolded into a deeper realization about learning itself. The contrast between what we remembered from a lived experience and what silently disappeared from months inside classrooms revealed more than a preference for a fun learning experience. It brought light to the misalignment between how education is structured and how the human brain actually learns.

Neuroscience, developmental psychology, and learning theory all converge on the same truth, learning is not passive absorption. It is biological, embodied, social, and deeply tied to context as well as the environment. The brain forms durable understanding through movement, sensory experience, emotional relevance, and interaction with the environment. Yet many educational systems still operate on models built for control and standardization, not for curiosity, and understanding. The issue lies not with the learners or teachers, but with educational systems that fail to align with how the brain naturally learns.

If learning is shaped by movement, emotion, interaction, and context, then educational systems must be designed in alignment with how the brain works, rather than expecting learners to adapt to inflexible structures. Classrooms should not be containers for information delivery, but environments intentionally structured to support the natural processes of human learning. This is where the idea of Brain Ergonomics becomes essential. Just as physical ergonomics designs tools and spaces to fit the human body, Brain Ergonomics calls for learning environments and systems that fit the cognitive, emotional, and social architecture of the human mind. It

shifts the central question from How do we make students fit the system? to How do we design systems that fit how humans naturally learn?The future of education isn't about adding more content, control, or assessment. It's about redesigning the conditions in which learning happens. When environments align with the brain instead of against it, curiosity comes naturally, motivation grows on its own, and learning doesn't have to be chased.

It simply happens!

Reference

1. **AmblesideOnline. (2026). *Thring as an educationalist*.<http://www.amblesideonline.org/ParentsReview/12-025thring>**
2. **Augustus Welby Pugin. (n.d.). The true principles of pointed or Christian architecture.**
3. **Bashore, J. (2022, May 5). *The factory model: Does it work? Did it ever? One-Room Education*.<https://one-roomeducation.com/the-factory-model-does-it-work-did-it-ever/>**
4. **Benjamin, Z. (2024, February 12). What is cognitive overload: How to spot the signs and prevent it in your classroom. Third Space Learning.<https://thirdspacelearning.com/blog/cognitive-overload/>**
5. **Billett, S. R. (1994). *Situated learning: A workplace experience*. *Australian Journal of Adult and Community Education*, 34(2).https://www.researchgate.net/publication/29461893_Situated_Learning_A_Workplace_Experience**
6. **Bolton, S., & Hattie, J. (2017). Cognitive and brain development: Executive function, Piaget, and the prefrontal cortex. *Archives of Psychology*,1(3).<https://www.archivesofpsychology.org/index.php/aop/article/view/30>**
7. **Burke, C., & Whyte, W. (2021). The spaces and places of schooling: Historical perspectives. *Oxford Review of Education*, 47(5), 549–555. <https://doi.org/10.1080/03054985.2021.1973984>**
8. **Clarke-Vivier, S. (2018). Because life doesn't just happen in a classroom: Elementary and middle school teacher perspectives on**

the benefits of, and obstacles to, out-of-school learning. *Journal of Experiential Education*, 55(2).

9. Donaldson, J. P., & Allen-Handy, A. (2023). What is learning? A complex conceptual systems analysis of conceptualizations of learning. *International Journal of Educational Research Open*, 4, 100254. <https://doi.org/10.1016/j.ijedro.2023.100254>

10. Northern Illinois University Center for Innovative Teaching and Learning. (2026). *Experiential learning*. <https://www.niu.edu/citl/resources/guides/instructional-guide/experiential-learning.shtml>

11. Fitz-Coy, S. (2026). *Place-based experiential learning. Rustic Pathways*. <https://rusticpathways.com/educational-travel/place-based-experiential-learning>

12. Gandini, L. (2011). History, ideas, and basic principles: An interview with Loris Malaguzzi. In C. P. Edwards, L. Gandini, & G. Forman (Eds.), *The hundred languages of children* (pp. 27–72). Bloomsbury. <https://doi.org/10.5040/9798400667664.ch-002>

13. Ikiugu, M. (1994). Psychological theories that have contributed to the development of occupational therapy practice. In *Psychosocial conceptual practice models in occupational therapy* (pp. 41–74). <https://doi.org/10.1016/b978-032304182-9.50007-6>

14. Jiang, S. (2025). An applied analysis of Piaget's theory in cognitive development and educational practice. *Lecture Notes in Education Psychology and Public Media*, 111(1), 147–153. <https://doi.org/10.54254/2753-7048/2025.ND26830>

15.Pakpahan, F. H., &Saragih, M. (2022). Theory of cognitive development by Jean Piaget. Journal of Applied Linguistics, 2(2), 55–60. <https://doi.org/10.52622/joal.v2i2.79>

16.Simply Psychology. (2026). Piaget's theory and stages of cognitive development.<https://www.simplypsychology.org/piaget.html>

17.Rajguru, M. (n.d.). The Gurukul system: Ancient pedagogical practices and their role in shaping Indian knowledge traditions.

18.APS Views. (2009, March). Real learning doesn't occur in a classroom.<http://aps-views.blogspot.com/2009/03/real-learning-doesnt-occur-in-classroom.html>

19.KI. (2024). Redefining the classroom: Learning happens everywhere!<https://www.ki.com/insights/blog/redefining-the-classroom-learning-happens-everywhere/>

20.Schneider, K. (2024). What is learning? Psychology, 15(5), 779–799.<https://doi.org/10.4236/psych.2024.155047>

21.Shamir, S. (2026). The hundred languages of children: The Reggio Emilia experience in transformation (3rd ed.). Scribd.<https://www.scribd.com/document/645615336/The-Hundred-Languages-of-Children-the-Reggio-Emilia-Experience-in-Transformation-3rd-Edition-Carolyn-P-Edwards-Lella-Gandini-Etc>

22.Watters, A. (2015, April 25). The invented history of "the factory model of education". Hack Education.<https://hackeducation.com/2015/04/25/factory-model>

23.LearningEdge. (2026, January 26). Why isn't the traditional education system up to the

task?<https://learningedge.me/sensemaking/why-isnt-the-traditional-education-system-up-to-the-task/>



Aadya

B. Des 2nd year (Delhi Technological University)

Aadya, a multidisciplinary designer and an aspiring product designer, currently in my sophomore year of my design degree. I am a person interested in psychology and behaviour, hence like social experiments and observing human behaviour in the social world and how its related to design. I am a person who likes to leverage my skills for crafting an impactful solution. Through this article I wanted to connect how multi-sensory input impacts the decision-making ability and the overall experience.

The Living Laboratory: Market Analysis of Chandni Chowk Through Interaction design

Aadya

Abstract

This article presents various inputs gathered during the field visit to Chandni Chowk. The trip was to gather touch points and interaction based or design based substantial observations. This explores the market analysis of the place in terms of sensory input, navigation and consumer behaviour with a minor remark about the general settlements and structures of the shops there. Key insights highlight the role of bargaining, factors that affect decision making in markets, explorative purchasing alongside the challenges of navigating the challenges of narrow streets, crowd flows and landmark-based orientation. The navigation aspect explores how consumers navigate the dense spatial layout and how their behaviour is shaped by the social interactions and environmental cues.

Keywords

Market analysis, sensory inputs, visual, tactile, olfactory, auditory, flavours, navigation, landmark, social, crowd-flow, narrow, multi-sensory, consumer behaviour, purchases, herd mentality, explorative purchasing, mental shortcuts, experience, memory.

Introduction

Market analysis is often understood as a study of supply, demand, pricing, and consumer trends, but when looked upon through the lens of interaction design, it becomes a more meaningful exploration of how people, environments, and cultural practices shape commerce. Unlike modern retail with a standardized layout, Chandni Chowk thrives on dense networks of crowded streets, sensory immersion and adaptive navigation.

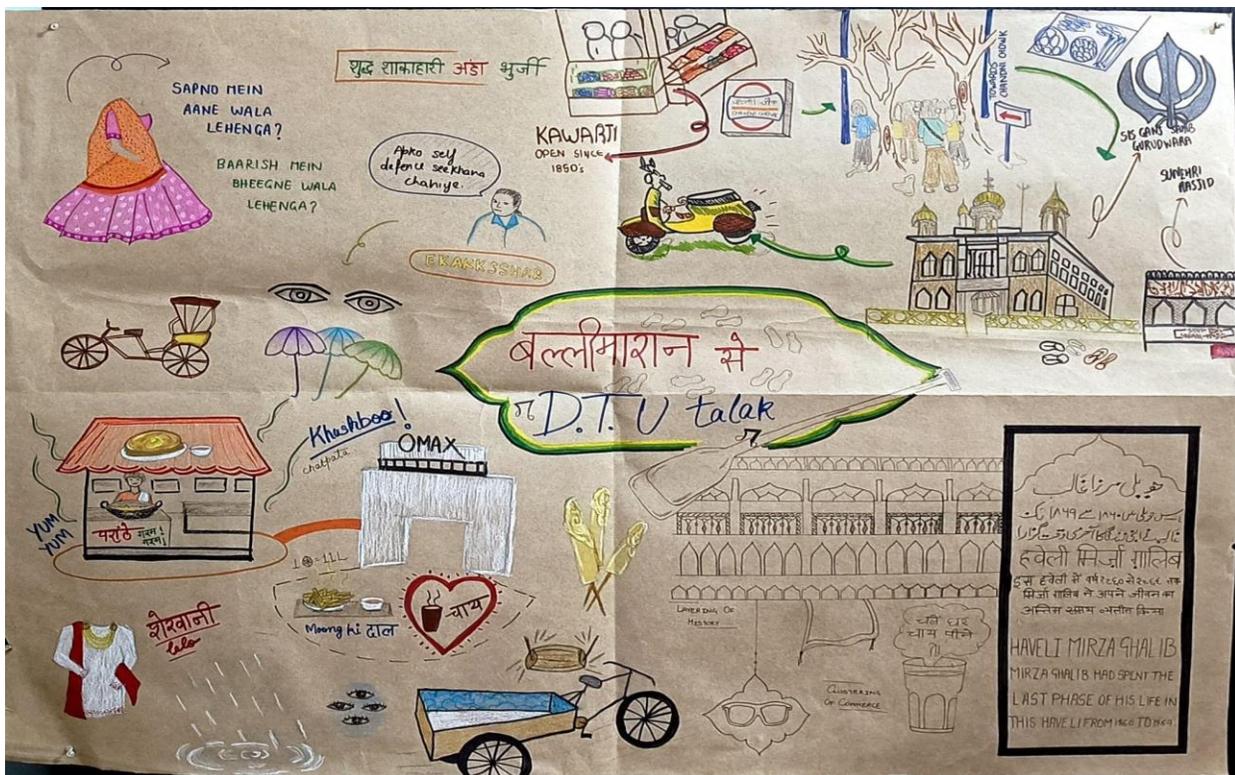


Fig.1 Representation of the entire visit in a visual mind map

During the field visit, observations of consumer behaviour – from bargaining to explorative purchasing revealed how dynamic a marketplace is in nature. Similarly, the physical layout of narrow lanes, landmark based navigation and crowd flows highlight how spatial design directly affects decision-making. The different input gathered could be divided into categories to better understand and

make out some meaning and relationship between the marketplace and the inputs.

Starting with the field visit, the most engaging and interactive part is the sensory input. Here is a division of all the sensory inputs that were gathered while visiting.

Tactile

The tactile input includes everything perceptible by touch or felt physically. The field visit was done on a rainy day. Hence the sensory overload. Tactically the place felt very sticky, mushy and humid. You could feel that the place was overcrowded even in the rainy season.

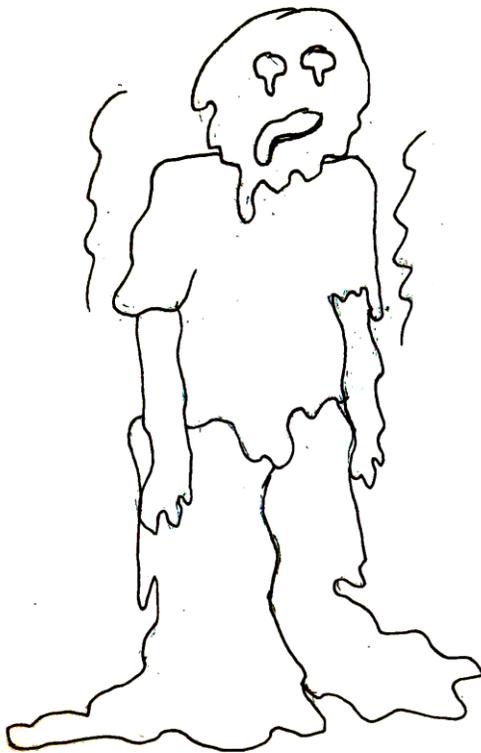


Fig.2 Humidity



Fig.3 Dirty and sticky (rainy)

The sticky humid feeling felt like the Fig. 2, like one is melting away at the excessive multi-sensory stimuli available. While slowly trying

to move through the crowd, it felt like illustrated in Fig. 3, as if one is almost squirming to get out of the tight ropes.

Everyone was bumping into each other as the streets are too narrow to contain the amount of people that visit there, at all times. Overcrowding when it's raining is not a nice combination and that too when you have to keep walking and exploring through the streets, trying to protect yourself from the passing by rickshaws.

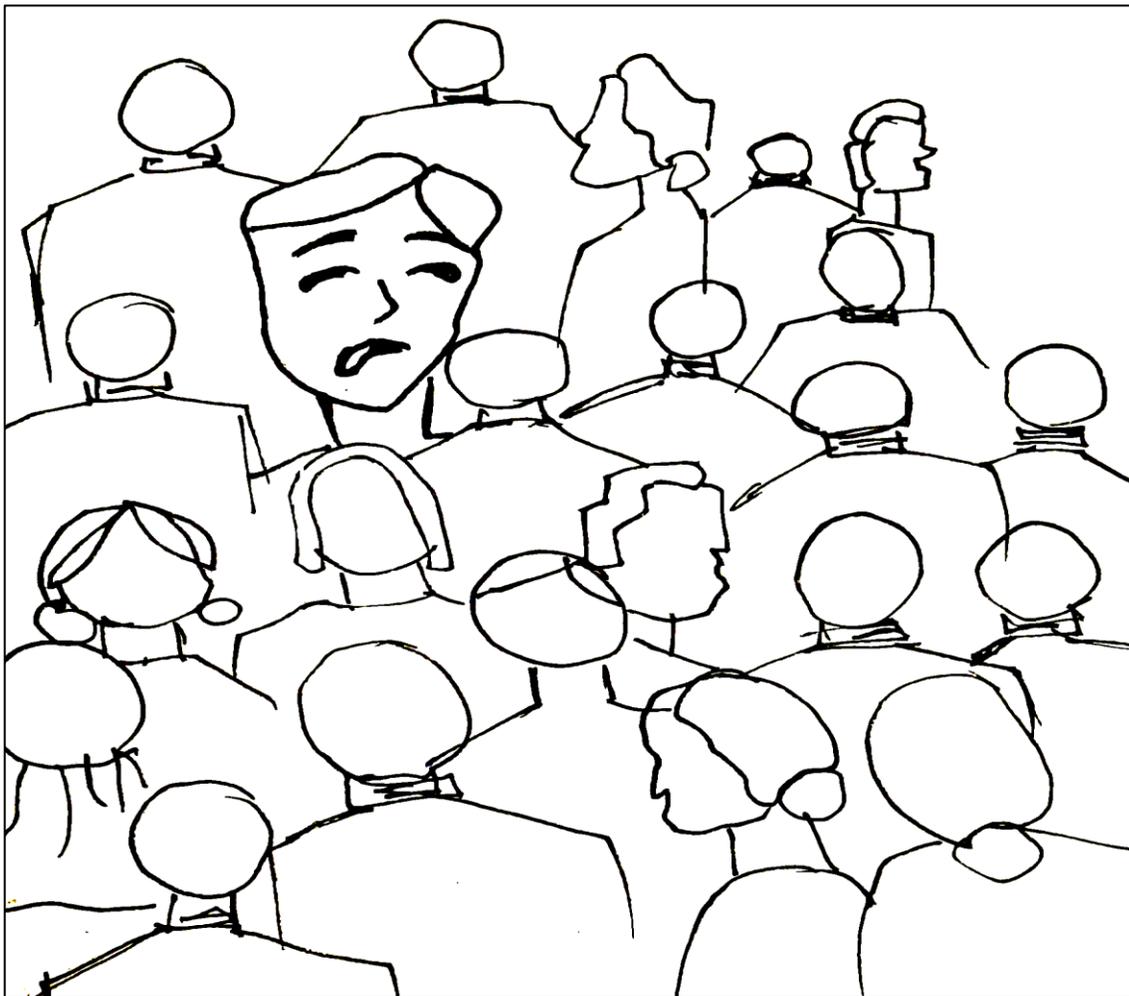


Fig.4 Overcrowding

It feels like illustrated in Fig. 4, too many people and the identity of a person getting lost amidst it. And the vehicles move both ways, so

it's not a rare sight to see rickshaws getting stuck and trying to go to their opposite directions while bumping into the people trying to walk in the cramped area. There was mud and dirt sticking to the feet as one tried to overcome the tight spot.

Auditory

This input includes everything related to the sense of hearing. In contrast to the tactile input, the auditory input was actually intriguing and creative. There was of course that constant buzz of the market. Apart from that, the shopkeepers and the vendors were constantly trying to sell their wedding wear to almost every passer-by. Now this is where they got creative. The extravagant descriptions and their enthusiastic approach of selling their products would actually make a person stop for a second and consider at least to window shop.

The descriptions included:

"Sapno main aanewaala lehenga"

"Baarish main bheegenewaala lehenga"

"Sherwaanichahiye madam?"

Table 1. Diary entry on communication.

All of these statements indeed made us laugh and even more curious. For the first time, implementation of such selling strategies was seen. Apart from this there was the pitter patter of the rain, sizzling oil and paranthas going into the big cauldron. There was

also a procession of some sort going on with dhols and chants amidst the already present chaos.

Visual

This input includes all the observations related to sight. The visual input included layering of the multi - generational shops, the busy streets with shopkeepers trying their best at the doorstep of their shop to sell, lots of tangled wires up in the streets etc.



Fig.5 Old Building in Old Delhi



Fig.6 Cultural layering

The main highlight was the cultural layering which was a Gurudwara and a Masjid being adjacent to each other right at the beginning. The Gurudwara is Sikh architecture with Mughal influences along with which it features a golden dome and white marble façade. People from all religions were visiting them and it was really moving as such scenes are seen once in a while.



Fig.7 Town hall

And then there was the mess the rain had caused. There were a lot of cycle rickshaws there, more than battery rickshaws which shows that the traditional essence is very much there in the place.

Everyone could see that the streets were dirty, there was water dripping even in shades and the food was not kept or made in the most hygienic manner but still people were waiting in the long queues just to experience the traditional and young essence of the place.

Olfactory

This input includes everything related to the sense of smell. The olfactory experience out of all was not that outstanding. It was majorly because of the rain and the humid climate. But there was an exception to it which was the...

'PARANTHA WAALI GALI'

Table 2. Diary Entry on Paratha WaliGali.

as it freshened us up a bit. The flavourful smell of the paranthas was a delectable break from the rainy stink.

Flavour



Fig.9 Kulfi (flavour input)

This input includes the sensory impression of food. The main highlight part from the place you visit is the food you eat there because you actually remember that well. So, the new and seemingly weird dish that was heard upon and eaten for the first time was French fries made up of “moong kidaal”. An interview was taken of the owner to get to know about the evolution of the dish. The other flavourful dishes included tea and kulfi. Also, a new flavour was discovered which was a purple coloured grape kulfi.

Apart from the sensory inputs, other key points that are of importance are Navigation and Consumer Behaviour.

Multi-sensory journey graph

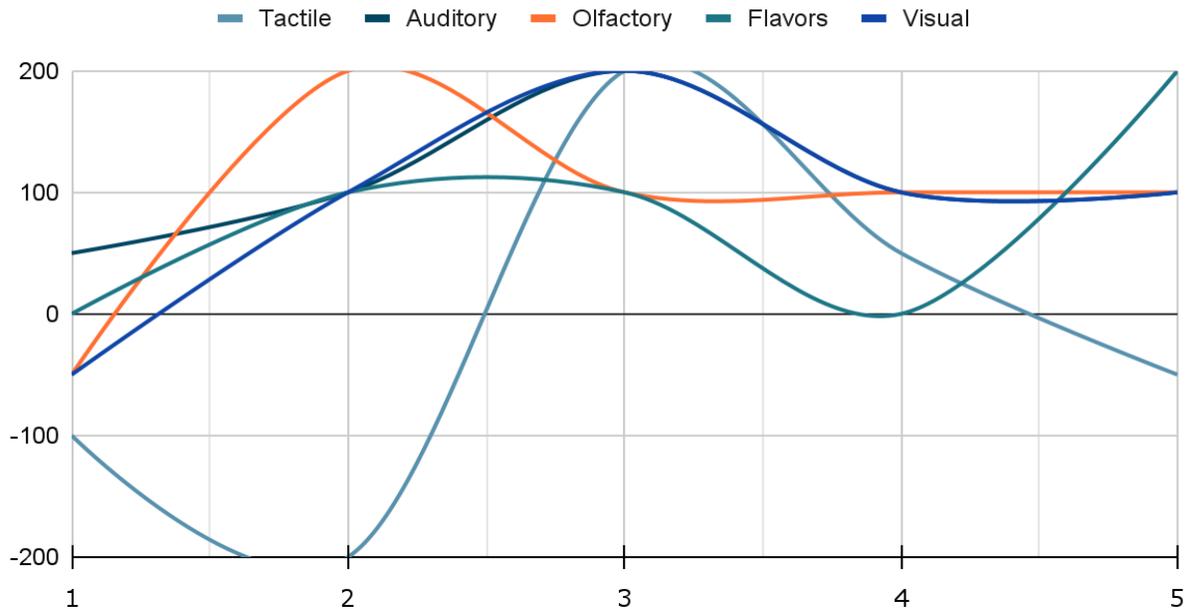


Fig.10 Representation of multi-sensory inputs throughout the journey

The graph above shows how satisfactory and unsatisfactory the multi-sensorial inputs were during the whole journey. The x-axis represents the scale for the inputs like -200 stands for worst and 200 stands for best, similarly 0 stands for neutral or not applicable. The y-axis has been divided into five marks which is meant to represent different stages of the journey like 1 represents right when Chandni Chowk was entered through the exit of the metro station, 2 represents the journey to the NaiSadak or the 'paranthawaaligali', 3 represents the exit from there and entry in the mall, 4 represents the journey to Ballimaran (Mirza Ghalib havelli) and 5 represents the food.

Navigation

The navigation of the place is a challenge in itself as the place is too cramped up and the streets are too narrow. There is limited signage. One of the ways people navigate around is by using landmarks like

“paranthawaaligali” or Jama Masjid. The other is asking around to the rickshaw drivers and local vendors for directions. Here the navigation is socially mediated and replaces the digital system. Even for them the directions generally include a way through the starting which is the Gurudwara, also a landmark.



Fig. 11 Getting lost in the lanes and Love for Doors.

But even after that, it is very easy to get lost or lose track. The essence of the place and the special montages are often seen deep in the streets, away from the throbbing public places like the Naughara which is away from the main road but is a significant part of the history of the place. And as one goes deep into the streets, the navigation becomes more and more of a task.

The tourists rely on landmarks, the shopkeepers and local vendors rely on mental shortcuts and spatial familiarity, shaped by

experience and memory. Also, the crowd flow dictates movement as navigation is not fully voluntary but the crowd density and flow dictate it especially during peak hours as at that time it is really difficult to stop at a shop midway when the whole crowd is moving forward.

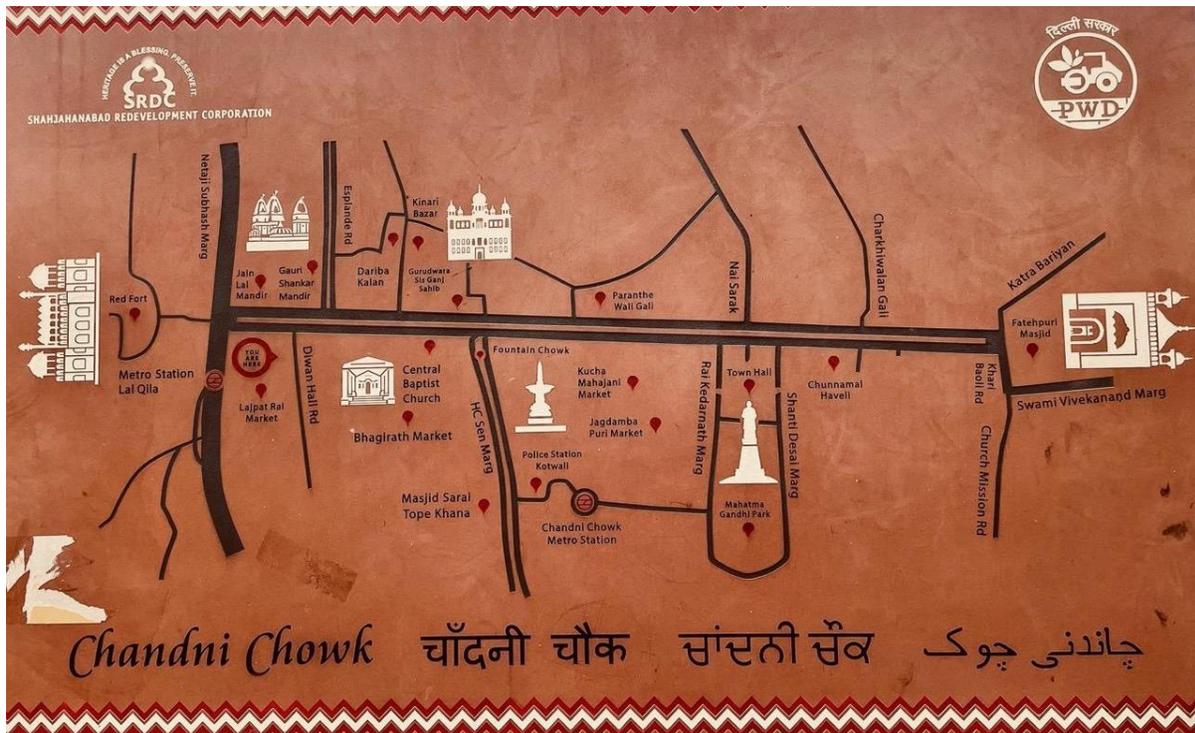


Fig. 13 Map of Chandni Chowk (2026)

Apart from all this, there is transport interference in the already cramped streets so navigation is constantly negotiated between pedestrian flow and vehicular interruptions. And navigation is not just for shoppers but for vendors also as they optimize routes for efficiency. They would particularly prefer to go out carrying goods during low traffic hours. To conclude navigation is multi-sensory – smell and sight act as natural way finders.

Consumer Behaviour

The consumer behaviour in such socially crowded places depends on a lot of variants. Decisions such as which shop to buy from or where to eat or whether to bargain, all depend on those variants. One of those variants is herd mentality which is that the consumers often choose shops with the largest crowds and queues, assuming that they are popular and that that equals quality.

An old and famous aloo tikki shop had a long queue and people kept on joining that queue. There was even seating available at the first floor but everyone was eating standing just like customers before them did. The other common consumer behaviour is exploratory browsing which is that the consumer does not have any specific in mind and lets the environment guide their purchases. Most people visiting any place with too many shops often use this method. Also, consumers at such markets view bargaining as a ritual, it's a form of conversation with the vendor even if the sign on the shop says

'no bargaining.'

Table 2: No bargaining meant Bargain.

Other notable behaviour that was observed was multi-sensory decision making. Decisions were influenced by smell, sight and audio. Though audio might not play that important role in some cases. But choosing which shop to eat from in the whole

'paranthawaaligali' is based on multiple senses. They would rather prefer a multi-generational family led shop than a new shop. The consumers constantly compare between shops and their prices and make that basis for bargaining too.

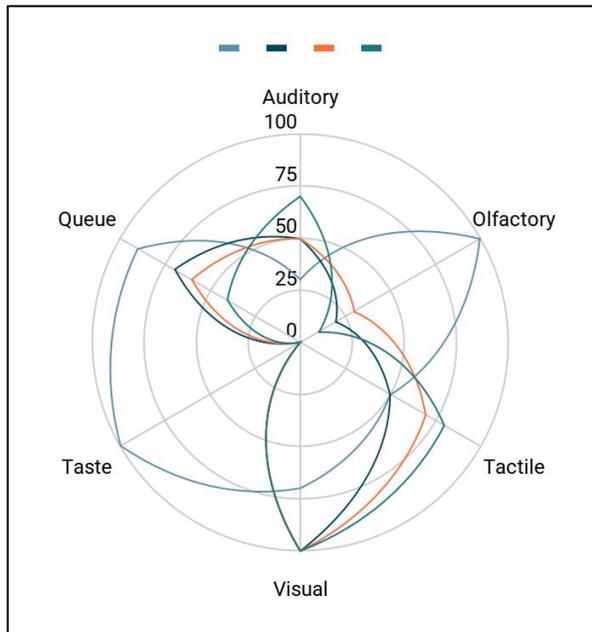


Fig.15 Representation of impact of multi-sensory inputs on consumer behaviour in terms of decision making

The graph represents how multiple senses and external factors impact a consumer's decision-making ability. The graph shows the impact in terms of four categories of products which are parantha, saree, home decor (festive) and earrings respectively. For each product, there is a different impact of each sense and in some cases one or two senses don't even matter. Here 100 is for matters the most, 50 is for may matter for some and may not for the others and 0 is for not applicable or doesn't matter.

The shift in the payment methods is quite significant amongst the younger and the older generation. The younger generation prefers convenience which is digital payments as it provides for quick

purchases while the older shoppers value tradition like cash. Many rickshaw drivers (especially cycle rickshaws) simply don't accept the online payments and demand cash as they haven't adapted to that technology or maybe can't due to some factor.

Other than these specific inputs, the general observation about the shops there and how people manage it is that the people over there have had their shops since generations. A vegetable vendor said that he has only ever sold vegetables in Chandni Chowk and nowhere even remotely outside of it for his whole life.

Coming back to shops, the shopkeepers generally have their shop at the ground floor of their home and live at the other floors. One notable thing is that for almost every shopkeeper, the door to their house remains open, while the access to the stairs is easily accessible and is when the place is crowded. This shows the comfortable and familiarity they have with the place and also that each and every adjacent shopkeeper is like an extended family.

Conclusion

In conclusion, the field visit reveals that traditional marketplaces are more than sites of commerce, instead a dynamic ecosystem where interactions in various forms constantly takes place. The interplay of consumer behaviour, navigation and sensory inputs creates a layered experience. Observing how people negotiate, and respond to multi-sensory cues highlights the importance of designing for adaptability and engagement. It offers valuable lessons that design must embrace complexity, inclusivity and remain responsive.