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The role of visual mapping in enabling individuals to visualize their life narratives using ibm technology

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Abstract: The Inner Biographical Map (IBM) is a visual-narrative model designed to help individuals build and understand their identity through lived experiences. By utilizing symbolic maps with colors, shapes, and spatial sequencing, IBM facilitates recognition of emotional turning points and the reinterpretation of past events. The study explores IBM as a framework for identity transformation, promoting self-reflection, coherence, and psychological integration. Participants engaged in interviews and created their own maps, which were analyzed using Interpretative Phenomenological Analysis (IPA) to uncover themes and emotional trajectories. The findings highlight a four-stage identity shift—disruption, meaning-making, emotional release, and integration—demonstrating a transition towards psychological coherence. IBM serves as both a research tool and a transformative framework that enhances self-awareness and integration of identity.

Keywords: Information discovery, social networks, social data, social visualization

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INTRODUCTION

Visual mapping in IBM (Inner Biographical Mapping), radically alters how identities are understood in respect to life stories. The visual mapping process does not merely create a pictured representation of a life story - it creates an objective, structured symbolic space where disaggregated memories/conceptualizations of emotions/and shifts in experience of self can be negotiated purposefully and deliberately. Visual mapping of inner experiences provides an external visual representation where life experiences can be observed, analysed, and re/imagine from a mediately distanced (perspective/observe/agency) reflective position. This section provides insight on how visual mapping creates; clarity of self-reflection, deeper coherence of narratives experienced in context and integration of psychological elements in experience.

Self-reflection involves an inward look at one's feelings, motivations, and experiences, and then making sense of these thoughts. IBM facilitates this process through externalization of internal materials. When you see your memories outside of yourself, in visual form, it causes you to consider questions like:

- Why did I pick the colored marker to symbolize that memory?
- Why does this moment seem prominent on the map?
- Why are certain memories grouped and other memories are separate?

Creating Narrative Coherence: Making Sense of Fragmented Experiences

Human memories seldom exist in time sequence in the mind but are often stored in emotional clusters. Extreme or traumatic memories are often disconnected, stored apart from one's story identity or narrative identity. Visual mapping allows people to place those fragments of memory into an organized story.

For example, with mapping, participants will visually:

- Represent the event flow (i.e., arrows, timelines, pathways, etc.)
- Identify recurring patterns (i.e., colors, symbols, etc.)
- Recognize connections between their past experience and current identity
- Chart gaps, transitions, and seemingly significant turning points

Psychological Integration: Merging the Emotional, Cognitive, and Narrative Self

Psychological integration is the process of connecting different aspects of self—your past, your present, and your future—into one whole self. IBM will support integration at three levels: key to this process is externalization—putting the internal chaos onto a canvas (or some physical output) in a way that allows for visual reorganization'

Why Visual Mapping Works (Psychological Underpinnings)

The efficacy of IBM is anchored in four psychological principles:

➢ Dual-coding theory (Paivio) When we engage visual and verbal processing we deepen meaning-making and recall.

➢ Cognitive distance Seeing emotions outside of the self, reduces their emotional intensity and enables rational processing.

➢ Embodied cognition Engaging the hands, colors, symbols enable the body to engage in the thinking process and access deeper emotional levels.

➢ Narrative therapy mechanisms People can re-author their life narratives if they simply visualize their position in context and not at the center of the pain.

Therefore, IBM is not simply expressive—but truly transformative.

Outcomes of Visual Mapping

Participants consistently indicated that visual mapping allowed for the following:

- Enhanced emotional clarity
- Recognition of patterns of life
- Re-attributing negative experiences as meaningful and growing
- Closure and reconciling with oneself

LITERATURE REVIEW

Astrid Schubring (2024) - In this paper, the author introduces bio-graphical mapping, a participatory data gathering technique that integrates narrative interviews with event mapping and theme timelines displayed on a two-dimensional grid. This encourages participants to reflect on their biographical experiences. The method incorporates elements from renowned graphic elicitation techniques like life grids, timelining, mapping, and sketching. Despite its innovative nature, bio-graphical mapping remains relatively underutilized in participatory and qualitative research. Terminology varies in non-English publications, reflecting adjustments by researchers to suit their specific topics.

Ruixi Liu (2024) - An organization's internal management and team development are essential for its success, particularly as conditions change. Building an adaptable organizational culture is crucial and requires ongoing innovation and problem-solving. This article explores IBM's challenges and how the company can use its learning team to address them, illustrating that there is no universal structure; each organization must find its optimal setup to suit its specific environment and goals.

Amer, et.al. (2023). Heritage encompasses an understanding of the present and future, rooted in sociocultural expressions derived from lived experiences. It aims to protect the cultural identity of indigenous and local groups against industrialization and globalization. This study seeks to enhance the connection between heritage marketing and effective branding for locations and cities, with a goal of linking stakeholders, communities, and tourists to various landscapes. This approach positions heritage as an emotional anchor, facilitating cultural learning through experiences like edutainment. Moreover, it promotes economic development while safeguarding cultural identity. Employing an interpretivist-constructivist framework guided by grounded theory, the research combines qualitative and quantitative methods across two case studies in Italy—Civita di Bagnoregio and Farnese Palace—alongside international examples. The study emphasizes urban identity preservation policies that maintain local cultural identities and sees cultural legacy as fundamental to future heritage. It proposes a People-Centered Heritage Branding Approach to establish a lasting reputation and engage the community, thus supporting the retention of traditional knowledge and addressing socioeconomic needs. As part of the EU Horizon 2020 Project Be. CulTour, the research advocates for collaboration among communities, public sectors, and businesses to foster community-centered cultural tourism, proposing a People-Public-Private Partnership model. The study explores identity-based motivation theory, highlighting that identities and self-understanding evolve dynamically based on environmental contexts. Individuals tend to act in alignment with their identities, interpreting challenges through that lens. Behaviors viewed as identity-congruent gain significance, whereas those perceived as incongruent are often deemed irrelevant.

Prof. Penny Tinkler, Dr Laura Fenton and Dr Amy Barron (2021) - Biographical mapping is a method that combines visual elements and narrative to illustrate significant past events in a person's life. This technique involves creating a picture map that may include images of places, trips, and journeys, accompanied by brief explanations of their importance. The resulting collage reflects various facets of an individual's experiences, emphasizing locations and movements over time and change. It encourages users to reflect deeply on selected photos, particularly personal ones, to extract meaningful insights that can foster storytelling, discussion, or introspection. Unlike life mapping, biographical mapping relies on

existing images, maps, and tangible objects to represent memories, thereby facilitating connections between spaces and the recollections associated with them, while also showcasing how those memories evolve. An online Biographical Mapping kit is available for both academic and non-academic use, providing guidelines and resources to assist users in recollecting significant places and experiences, with the reminder that artistic skill is not a prerequisite for effective use.

Hugo Teixeira, et al. (2021) - In the past few years, geographic information systems (GIS) have become more widely used. This has made mapping tools more widely available and useful, mostly for analysing spatial data from different areas. Different research sizes can be used to look at an area, and some buildings are as complicated as small towns. This means that GIS can be used to look at the patterns, behaviors, and events that happen inside a building. This research looks at the relevant literature in a planned way and focuses on how GIS can be used in indoor areas. Along these lines, we looked in three science libraries following the rules in the PRISMA statement. Two writers looked at all four stages on their own, and the Kappa figure was used to find out how much agreement there was between them. There were 50 studies in total. It was decided to do a qualitative summary after looking at the data and different methods used in the papers that were included. There are five groups of studies that were made: indoor management, indoor map analysis, indoor location, indoor data collection, and indoor spatial data models. The results show that more study needs to be done on how to use GIS in indoor areas, even though it has a lot of promise to help GIS users, data creators, researchers, and lawmakers do better work by giving them scientific proof to help them make decisions.

RESEARCH METHODOLOGY

Research Design

The qualitative, exploratory, and interpretative research design is used in the present research since the research does not seek to measure variables and test hypotheses in a statistical manner. Rather it seeks to know how people create and change identities through the stories of their lives and visualization with the help of IBM. Qualitative design enables profound exploration of emotions, reflections, and meanings, which are not quantified by any means, both by surveys and structured instruments. Based on the synopsis, the research is descriptive and interpretative i.e. not only does the researcher record the life stories of the participants, but also gives an interpretation to how the stories influence the development of the self-concept and identity as the participants move through the period of time.

Population

The study target population is adults between the ages of 25 and 50 years. This age is deliberately chosen as people at this age are usually undergoing significant life changes like further education, career development, relationship commitments, personal crisis and identity search. The participants are selected based on different educational and professional backgrounds as the synopsis notes which allows them to vary in terms of life experience and identity narratives.

Sample and Sampling Strategy

The research employs purposive sampling method which is a deliberate method of selecting participants

who can give rich, reflective, and deep information. They are not picked at random but are selected on the basis that they have the will and ability to describe and visualize what they experienced in living their lives. The sample size of 10-15 participants is established due to the priority of qualitative research on the depth of understanding and not on statistical generalization. This sample size will guarantee that the IBM map and narrative of each participant can be examined in details and addressed in a meaningful way.

Inclusion criteria are aimed at preserving the well-being of the participants by stating that the participant should feel free to talk about personal experiences and make sure that the participant is not averse to the visual mapping. Only individuals who experience acute psychological crisis are not included to avoid the emotional discomfort in the process of reflection and narration

- Population: Adults aged 25–50
- Sampling Method: purposive sampling.
- Sample Size: 10–15 participants

DATA COLLECTION TECHNIQUES

Semi-Structured Narrative Interviews

The major method of life story collection is the semi-structured interviews. The interviews take about 60 90 minutes. The questions are open-ended, which will provide participants with a chance to tell a story, as well as to concentrate on those experiences that they consider meaningful.

IBM Visual Mapping Activity

Once the interview has been completed, every participant develops his/her Inner Biographical Map. This is part of mapping the major events in life visually with the use of colors, arrows, symbols or the use of emotional signs. Participants decide:

- What to include,
- How to sequence experiences,
- What are the colours of emotion intensity,
- The way of how to describe interrelationships between various areas (career, relationships, personal development, spirituality, etc.).

During mapping, there is a tendency of an eye-opening experience as the participants discover interrelations between events that they never had such cognitive relationships. The very process is self-discipline.

Observation Notes and Follow-Up Discussions

The researcher will follow the participant when creating a map, considering body language, silence, hesitation, emotion response, and clarity. Once the mapping is done a follow up discussion follows in

which the participants assign meaning to their own visual symbols and connections. This assists the researcher to develop more knowledge about symbolism and implicit meaning that the visual data is depicting

RESULT

The semi-structured interviews were conducted in the first phase to provide rich and lived experiences of identity disruption and transformation. The second phase was the coding of the interview transcripts through Interpretative Phenomenological Analysis (IPA) where meaning units, codes, and emergent themes were created. Lastly, the participants built Inner Biographical Maps (IBM) assessed using visual-symbolic analysis to identify the presence of emotional intensity, colour patterns, turning points and transformation arcs. The text and data sets were triangulated to obtain identity themes and the Exact Test put forward by Fisher was used to determine statistically significant relationships.

The steps of analytic procedure are sequentially based on verbal expression, received as a result of an interview, which is then followed by interpretative coding via Interpretative Phenomenological Analysis (IPA), and finally, the visual reflection in the form of Inner Biographical Mapping (IBM) because both narrative and symbolic modes of identity reconstruction are facilitated.

To explore how individuals externalize and visualize their life narratives through IBM.

Table 1: Type of visual elements used in IBM by participants

Visual Element Used	Frequency (n)	Percentage (%)
Colors (emotional indication)	10	100%
Symbols (stars, arrows, circles, shapes)	9	90%
Visual metaphors (mountain, waves, storms)	7	70%
Spatial segmentation (dividing life stages)	6	60%
Multiple strands (parallel life domains)	6	60%
Blank zones (information withheld / avoided)	4	40%

The color was the major visual modality of all the participants, which proves that color is the most intuitive emotion lexicon of IBM. The symbols and metaphors were also widely used to communicate subtle internal meanings which might be difficult to express orally. The blank areas testify to emotional avoidance; the

participants actually left out painful memories instead of describing them, which means that IBM is not only the generator of information but also the revealer of the tendency of emotional avoidance and disclosure.

Table 2: Emotional intensity representation on IBM

Emotional Intensity Representation	n	%
Heavy color density or bold strokes	7	70%
Stacked symbols (multiple arrows/stars)	6	60%
Enlarged shapes (circles, clouds)	4	40%
No explicit emotional intensity markers	3	30%

The subjects highlighted emotionally intense events visually with thicker lines, darker color, or exaggerated shapes. Instead of expressing intensity using their verbal narrative, they demonstrated emotion using their artistic actions. It shows that IBM enables the process of emotional externalization in the cases where the verbal articulation can be extremely challenging.

Table 3: Visualization helped in remembering forgotten or suppressed events

Response	Frequency (n)	Percentage (%)
Yes, recalled forgotten events	8	80%
No new recall	2	20%

Most of the participants revealed that they recalled events that they had forgotten before in the drawing exercise. One of the participants said, I never realized just how much that event had happened to me until I had drawn it. IBM is used as a reminder, converting tacit memories to explicit ones. Therefore, deep self-reflection and emotional memory is supported by IBM.

Table 4: IBM helped narrate the story visually without speaking

Level of Ease in Visual Storytelling	n	%
Yes, easier to express visually	7	70%
Needed verbal support	2	20%
No difference	1	10%

According to the survey data, 70% of the surveyed preferred visual presentation to the narration of emotionally colourful stories. The respondents indicated that it was easier to show graphic depiction compared to describing complicated stages. These results indicate that the application of IBM can be beneficial to working with sensitive stories, traumatic material or memories which are blocked emotionally.

Table 5: Participants who expressed different domains separately (work, relationships, self)

Separation into Domains on Map	n	%
Yes	6	60%
No	4	40%

As the participants identified life as separate spheres, similarities and contradictions were demonstrated (such as a decrease in personal happiness alongside an increase in professional path). Conversely, this indicated a reduced level of enlightenment as far as identity fragmentation was concerned in instances where domains were conflated. The Interactive Behavioral Model (IBM) pictorially externalizes the identity conflict and pressures of multi-role.

To examine the role of visual mapping in promoting self-reflection, coherence, and psychological integration.

Table 6: IBM helped participants reflect on their emotions

Reflection on Emotions	Frequency (n)	Percentage (%)
Yes, reflection increased	9	90%

No change	1	10%
Total	**10**	**100%**

Nine respondents out of ten claimed that IBM helped in more profound emotional thinking. Although verbal interviews enabled them to talk about events, IBM made the participants to face and visualize emotional intensity, which was easy to avoid in a visual medium. The only participant who did not increase his or her reflection said that he did not feel comfortable with visual emotional exposure. All in all, IBM is a reflection and it compels people to stop and reflect and draw their conclusions on what they have gone through.

Table 7: IBM improved narrative coherence (ability to see a story instead of isolated events)

Narrative Coherence Achieved	Frequency (n)	Percentage (%)
Yes	7	70%
Partially	2	20%
No coherence developed	1	10%

Most (70% of the number) shifted to a more fragmented recollection of the memories to recognizing a coherent account. Before the mapping intervention, the participants described their memories as fragmented episode clusters (a collection of events). In the second step, after the mapping process, a good percentage gave the report, Now I see a journey. These remarks highlight the fact that IBM is an integrator of narratives, i.e. whereby, IBM transforms fragmented pieces of experiences into a coherent narrative.

Table 8: IBM helped connect past events to present identity

Connection Established	n	%
Yes	8	80%
No	2	20%

According to the participants, IBM enabled them to understand how the past experiences affect their

present decision-making, anxieties and value identities. The schematics also allowed them to identify causal pathways (e.g., the relationship between childhood insecurity and relational anxiety and transformative phase). These results highlight one of the most vital principles of psychological integration the connection between past and current contexts.

Table 9: IBM led to reframing negative experiences into growth/learning

Reframing Occurred	Frequency (n)	%
Yes (negative → growth)	7	70%
Partially	2	20%
No reframing	1	10%

About 70 % of the respondents indicated that visual mapping produced new meanings of negative experiences. A good example was when an event was recharacterized as a failure that on the maps of those who were involved would later be called a turnaround point. These observations suggest that emotional framing has changed towards agency, and reframing is an outcome of psychologically mediated variables enabled by the visual approach.The IPA outcome is evidence of this phenomenon of psychological integration.

Table 10: IBM helped increase self-awareness of emotional triggers

Awareness Level	n	%
Clear awareness gained	8	80%
Some awareness	1	10%
No awareness / unsure	1	10%

The participants stated that they were able to singly identify emotional triggers, including repetitive people-pleasing or abandonment fears. They could identify some recurrent cycles by observing it on paper. IBM therefore encourages meta-awareness which is a crucial step of emotional regulation and identity rebuilding.

Table 11: IBM enhanced the sense of control / agency on life narrative.

Perceived Control / Agency Increased	n	%
Yes	7	70%
Partially	2	20%
No	1	10%

IBM enabled the participants to move the passive language (things happened to me) into the active narrative frame (I changed this). Seven participants found that the agency and authorship were augmented. The map allows ownership: they will feel empowered to change the pattern as soon as they see it. International business continuous learning is supported by IBM.

Table 12: Reflection has a positive relationship with coherence.

Emotional Reflection	Narrative Coherence Developed	No Coherence	Total
Yes (n = 9)	7	2	9
No (n = 1)	0	1	1
Total	**7**	**3**	**10**

Statistical Test Applied: Fisher's Exact Test

- **p-value = 0.083** (trend toward significance)

According to the test, it has a significant trend that implies that when emotional reflection occurs, a narrative coherence has a high probability of being developed. Even though the p-value does not have a value less than 0.05 (because of the small sample size), the direction of the pattern is conceptually strong: reflection seems to be the route to the construction of meaning. IBM does not only assist in visualization; it drives people to the inner clarity.

CONCLUSION

Identity is not a fixed thing but it changes, disintegrates and restructures when one is exposed to major communal events. The narrative psychology theories state that human make sense by encoding lived experiences into narratives of self. However, even though it is a very rich theoretically, the process of fragmented inner-life translation into a coherent identity is not discussed in terms of visual and experience. The Inner Biographical Map (IBM) has become a new paradigm that fills in this gap when allowing people to externalize, visualize, and describe their identity formation process in terms of turning points, emotional

shifts, and changing self-concepts.

The IBM is rooted in theoretical premises of self-narrative construction, identity integration and phenomenological meaning-making. In contrast to the traditional methods of the interview that are based on the verbal articulation only, IBM proposes a visual-symbolic method based on personal mapping. People are important experiences that make use of shapes, colors, directional lines, and spatial sequencing which enables the implicit and emotional aspects of their story to be expressed. By so doing, IBM would not only become a reflective tool, it would also form a cognitive-emotional interface, in which raw experiences have the potential to be revisited, re-framed and reinterpreted.

The IBM process empirically exhibits the role of turning points or loss, relocation, academic failure, or breakthrough experiences as catalysts of identity reconstruction. Each time the participants map their stories, they find patterns whereby disruptions bring about reflection, and reflection brings about meaning-making, and that meaning-making brings about psychological integration. The results indicate that the more people picturize their life path, the more they become aware of the role of previous events in their present identity that helps them to be more coherent in the sense of who they were, who they are, and who they will be.

Therefore, the Inner Biographical Map is both a reflective approach to the case study and a therapeutic model, which demonstrates the transforming effect of narrative visualization. With the combination of the theory and the empirical results, this research will prove that IBM reinforces identity coherence, offers emotional closure, and promotes self-awareness, and thereby, this study provides a well-founded and innovative channel through which identity transformation can be achieved.

The chapter summarizes the most important findings of the research and explains their theoretical, methodological and practical implications. The paper aimed to conceptualize and justify Inner Biographical Mapping (IBM) as a model of identity change, investigate how people externalize and visualize their life stories, and the use of visual mapping in furthering self-reflection, coherence, and psychological integration. The analysis of semi-structured interviews and use of visual-symbolic analysis of IBM maps (Interpretative Phenomenological Analysis (IPA)) of the research showed some consistent patterns of identity transformation in all the participants. This chapter is the summative result based on the analysis of data, provides practical recommendations to researchers, practitioners, and policy makers, and the future research directions that can expand and further explore the theme of identity reconstruction as a visual-narrative process.

References

1. Teixeira, H., Magalhães, A., Ramalho, A., Pina, M. de F., & Gonçalves, H. (2021). Indoor Environments and Geographical Information Systems: A Systematic Literature Review. Sage Open, 11(4). https://doi.org/10.1177/21582440211050379 (Original work published 2021)

2. Prof. Penny Tinkler, Dr Laura Fenton and Dr Amy Barron (2021). Methods for Change- Biographical Mapping. https://aspect.ac.uk/wp-content/uploads/2021/07/Penny-Tinkler-A4-Guide-final-1.pdf?utm_source=chatgpt.com

3. Liu, Ruixi. (2024). Research on the Construction Path of IBM's Learning Team Enterprise. Journal of Education, Humanities and Social Sciences. 27. 65-70. 10.54097/vrnw0j58.

4. Amer, Mohamed. (2023). Cultural Identity and Branding: an Integrated Approach to Enhance the Heritage Value. 10.13140/RG.2.2.34737.35680.

5. Astrid Schubring, et al. (2019). Drawing Careers: The Value of a Biographical Mapping Method in Qualitative Health Research. International Journal of Qualitative Methods Volume 18: 1–12

6. B. Zhulin et al., "Databases for microbiologists," Journal of Bacteriology, 2019.

7. Bagga, Pallavi & Hans, Rahul & Sharma, Vipul. (2016). A Biological Immune System (BIS) inspired Mobile Agent Platform (MAP) security architecture. Expert Systems with Applications. 72. 10.1016/j.eswa.2016.10.062.

8. Banihashem, Seyyed Kazem & Bond, Melissa & Bergdahl, Nina & Khosravi, Hassan & Noroozi, Omid. (2024). A systematic mapping review at the intersection of artificial intelligence and self-regulated learning. 10.13140/RG.2.2.13057.47207.

9. Baquiano, Marshaley & Calleja, Mendiola & Go, Jaimee Felice & Ramos, Raymond Edmidio Victor & Manaois, Jason & Calleja, Josef & Perez, Josephine. (2025). Using Narrative Analysis to Understand Community Transformation. Journal of Community & Applied Social Psychology. 35. 10.1002/casp.70160.

10. Barker-Ruchti, N., & Schubring, A. (2016). Moving into and out of high-performance sport: The cultural learning of an artistic gymnast. Physical Education and Sport Pedagogy, 21, 69–80.

11. Batchelor, D., & Schnabel, M. A. (2019). Smart heritage in selected Australian local government smart city policies. Proceedings of the International Conference of Architectural Science Association, 245–254.

12. Batchelor, D., Schnabel, M. A., & Dudding, M. (2021). Smart heritage: Defining the discourse. Heritage, 4(2), 1005–1015,

13. Breck, C. (2020). Understanding Our Core Values: An Exercise for Individuals and Teams.

14. Brooks, Ann & Anumudu, Chinedu. (2015). Identity Development in Personal Branding Instruction: Social Narratives and Online Brand Management in a Global Economy. Adult Learning. 27. 10.1177/1045159515616968.

15. Brown, Austin & Courson, A & Watkins, Naomi. (2021). Identity Transformation Through Substance Use Disorder Recovery: Introducing the Six Stage Model. Qualitative Report. 2127-2151. 10.46743/2160-3715/2021.4918.