MEANINGFUL EXPERIENCE ASSESSMENT

MASTER THESIS - MERIJN ROGGEN

A quantitative assessment method for the meaningfulness of immersive multimedia experiences.

TU Delft Cocolab

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“I bought a ticket to the world...”

Spandau Ballet. True. 1983

Merijn Roggen / February 2025

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Abstract

As the entertainment industry shifts toward creating more meaningful experiences, the need for effective assessment methods has become increasingly important. This project explores how immersive multimedia experiences, such as those designed by Cocolab - our client - can be systematically evaluated for their meaningfulness. While existing frameworks focus on visitor satisfaction and commercial success, they fail to capture this deeper psychological and emotional impact of an experience.

Drawing from research in psychology, philosophy, and design, this study defines meaningfulness through Martela and Steger's (2016) trichotomic framework - coherence, purpose, and significance. Building on this, Duerden's (2025) Sources of Meaning in Life framework is introduced to assess how experiential insights connect to personal relevance. To measure this connection, we incorporate the SOLO Taxonomy and Contextual Personal Value Profiles, evaluating both the generation of insights and their alignment with an individual's sources of meaning in life. Following a Double Diamond design process, the project integrates desk research, expert interviews, and field studies to develop EXPLORA - a structured assessment method and platform.

EXPLORA evaluates meaningfulness based on two core criteria: the generation of insights and their connection to an individual's sources of meaning in life. It balances structured assessment sequences with flexible implementation, which ensures adaptability across diverse immersive experiences while maintaining consistent data. This is achieved through modular Building Blocks, allowing customization while preserving assessment integrity.

Through iterative prototyping and real-world testing, EXPLORA offers an adaptable, scalable, and data-driven approach to assessing meaningfulness in experiences. This research contributes to the broader field of experience design by providing a method that not only enhances Cocolab's understanding of its impact but also establishes a framework for industry-wide assessment of meaningfulness.

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To my Family and Friends (In Dutch)

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To Victoria (In Dutch, Spanish, an English)

¡Heeyheeyy mariposa! We did it. We saw an opportunity to jump, and we jumped - straight to CDMX, the city where it (sort of) all started. Thank you for holding my hand during our jump, for always having my back, for believing in this - our - dream. For being patient with me when I wasn't (I am Dutch, after all, but you manage). For making me feel heard whenever I needed it, for always knowing how to bring a smile to my face, for being crazy yet so unapologetically yourself. Once again, I lack the words to describe how much I appreciate everything you have done for me this past year. Te amo, almamuy.

CHAPTER
01

ALEBRIJES

Alebrijes are vibrant, fantastical creatures from Mexican folk art, symbolizing imagination and creativity. Originating from the dreams of artist Pedro Linares, they blend pre-Hispanic beliefs with modern artistry.

READERS INFORMATION

In the first chapter of this report, we will provide the reader with essential background information. We will begin with a reading guide to help navigate the document, followed by an overview of the structure of both the report and the project itself. Finally, we will clarify commonly used abbreviations and key definitions.

1.1 Reading Guide

Before diving into the core of this report, we want to ensure the reader - you -with a smooth and engaging reading experience.

This section provides a brief guide on how to navigate the document, explains its structure, and introduces some unique elements designed to enhance readability.

Welcome to this report on the development of a quantitative assessment method for evaluating the meaningfulness of immersive multimedia experiences. As we dive into the concept of meaningfulness and how to assess it, we recognize that the depth of our inquiry may, at times, challenge the reading experience. To counterbalance this, we have incorporated brief moments of reflection at the start of each chapter.

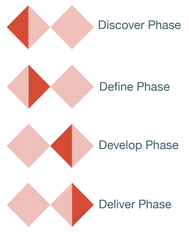
These pauses are inspired by the rich cultural context in which this project was conducted - Mexico. Each chapter begins with a chapter page on which we highlight an iconic element of Mexican culture, such as the Mexica, the Nopal Cactus, and Lucha Libre, accompanied by a carefully crafted image. These moments are designed to offer the reader a brief respite - an opportunity to take a deep breath before continuing.

Structurally, this report follows the Double Diamond framework, a well-established model in design processes. To guide you through this journey, each chapter is marked with an icon indicating its place within one of the four phases of the Double Diamond.

The beginning of each new chapter is introduced with a brief summary of the chapter's content. This summary can be found on the chapter pages, where the reader will also find information on the Mexican icons. The end of each chapter (or in some cases sections, if the chapter if elaborate) will be concluded by highlighting the main take aways derived from the chapter - the critical insights.

Most importantly, we encourage you to enjoy the read. While this is an academic report, we believe the experience of reading it should be engaging and rewarding. Thank you for your time and curiosity.

¡Muchas gracias y disfrútalo!



Critical Insights

- No worry, this is just an example.

1.2 Report and Project Structure

Both the structure of this report and the approach taken in the project are inspired by the Double Diamond framework. This design process model, which consists of four key stages - Discover, Define, Develop, and Deliver - has guided our research and development. In this section, we outline how the Double Diamond shaped both the progression of the project and the organization of this report, ensuring a clear and logical flow.

1.2.1 Report Structure

1. **Chapter 1** - Readers Information: This chapter provides essential background information for navigating the report. It includes a reading guide, an explanation of the report structure, and the approach used to address the project's objectives.
2. **Chapter 2** - General Introduction: This general introduction sets the stage by explaining the context and significance of the research. It introduces the problem of assessing meaningfulness in immersive multimedia experiences and highlights the importance of this evaluation for companies like Cocolab.
3. **Chapter 3** - Company Analysis: This chapter analyzes Cocolab's role in the entertainment industry, its purpose, and the types of experiences it creates. It also examines the company's design process and current approaches to assessing the impact of its experiences.
4. **Chapter 4** - Meaningful Experiences: Here, the concept of meaningfulness is explored, focusing on frameworks such as Martela & Steger's (2016) trichotomic framework and Duerden's (2025) "Sources of Meaning in Life." The chapter connects these theories to experience design and assessment methods.
5. **Chapter 5** - Field Research: This chapter details the empirical research conducted through interviews, observations, and experiments. The goal was to gain deeper insights into the real-world impact of Cocolab's immersive experiences and how meaning is perceived by visitors.
6. **Chapter 6** - Design Criteria: The chapter establishes the design criteria for assessing meaningfulness, informed by the field research and theoretical frameworks. It also outlines the key requirements for developing an effective assessment method.
7. **Chapter 7** - Problem Definition: This section refines the central problem of the project, defining the gaps in current assessment methods and the challenges in quantifying meaningfulness. It helps to set a clear direction for developing a solution.
8. **Chapter 8** - Ideation: This chapter focuses on generating potential solutions for assessing meaningfulness. Various ideas were brainstormed and tested, with the most promising concepts being selected for further development.
9. **Chapter 9** - Conceptualization: The selected concepts are refined and structured in this chapter. It focuses on detailing the approach, tools, and frameworks to be used in the assessment method, ensuring they align with the project's goals.
10. **Chapter 10** - Validative Prototyping: This chapter details the prototyping phase, where concepts were tested in real-life settings. Feedback from these tests was used to validate and iterate on the assessment method, ensuring it was both practical and effective.
11. **Chapter 11** - Concept Development: The final concept is developed here, integrating insights from prototyping. This chapter outlines the structure and functionality of the assessment method, providing a clear blueprint for Cocolab's implementation.
12. Chapter 12 **- Discussion and Conclusion: This section discusses** the results of the project, the strengths and limitations of the developed method, and its potential impact on Cocolab. It also offers recommendations for future research and improvement of the assessment approach.
13. **Chapter 13** - Sources
14. **Chapter 14** - Appendices

1.2.2 Project Approach

The originally intended project approach and planning that was established in preparation for this project can be found in appendix A. This approach was based on the double diamond model, where we go through the phases 1) Discover, 2) Define, 3) Develop, and 4) Deliver. The following four paragraphs will briefly explain the four phases in the context of this project. We will discuss the actual unfolding of these phases in practice in chapter 12 on discussion and limitations.

Discover - In the initial phase of the double diamond approach, we aimed to understand the (Mexican) experience design industry, the company, the role the company fulfills in the industry, visitors, and meaning and how it is perceived, and how it potentially be assessed. This understanding is created in chapters 2 to 5. We will use a mixed methods approach, as we do not only conduct desk research, but also go into the field for interviews with experts, surveys with hypothetical visitors, and observations at real life experiences.

Define - The define phase is started by the development of design criteria or guidelines, that are based upon the conducted research in the previous section. This initial list of design criteria is then quickly put the test in a series of rapid experiments and sessions with the client, that further help give shape to the design criteria. Subsequently, we continue with a set of hypotheses that need further validation, and conclude with a problem definition and design vision. This phase will be discussed in chapters 6 and 7.

Develop - The third phase of our approach consists of three main steps. Ideation, conceptualization, and the selection of the most promising concepts based on the design criteria developed earlier. We will discuss these steps in chapters 8 and 9.

Deliver - Finally, the delivery phase. Here, we will arrive at one final concept. We will build a prototype for this concept and put this prototype in practice in the context of an immersive multimedia experience for iterative purposes. We will show, in detail, what building blocks this concept consists of, how the building blocks can be put into practice by Cocolab by the use of a decision tree, and how this system can be used more effectively in the broader context of Cocolab's design process. We will discuss this in chapters 10 to 12.

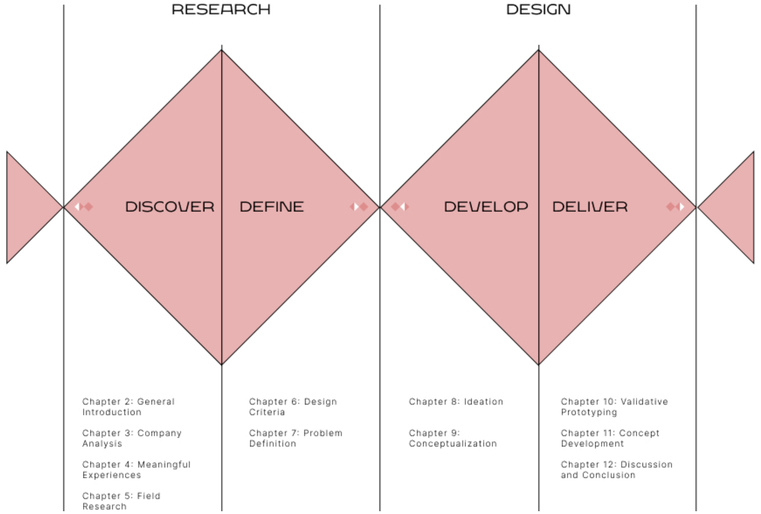


Image 1.1: Double Diamond structure visualized with belonging chapters

1.3 Abbreviations

- **SOLO** Taxonomy: Structure of the Observed Learning Outcome; a taxonomy used to evaluate the depth of understanding and insight generation.
- **CPVP:** Contextual Personal Value Profile; a method for assessing the personal relevance of an experience by analyzing how insights connect to an individual's sources of meaning.
- **INPSIRE:** Cocolab's six-phase design process guiding immersive multimedia experience development.
- **EXPLORA:** Experience Laboratory on Reflective Assessment; The structured assessment method and platform developed in this project to evaluate the meaningfulness of immersive multimedia experiences.

1.4 Definitions

- **Experiences:** A structured and orchestrated sequence of interactions, sensations, and emotions designed to create engagement and impact. We will elaborate more on this terms throughout this report.
- **Multimedia:** A combination of multiple forms of media, such as visuals, sound, and interactive elements, used by Cocolab to enhance storytelling and engagement.
- **Immersive:** The quality of an experience that deeply engages the participant, often by surrounding them in a designed environment or interactive setting.
- **Meaningfulness:** The extent to which an experience provides coherence, purpose, and significance, achieved through the fulfillment of the generation of insights and the connection of these insights to someone's sources of meaning in life. We will elaborate more on this terms throughout this report.
- **Dimensions of Meaning in Life:** Framework from Martela and Steger (2016) explaining the three dimensions of meaning; Coherence, Purpose, and Significance. We will elaborate more on this terms throughout this report.
- **Sources of Meaning in Life:** Framework from Duerden (2025) explaining from what sources people draw meaning in their lifes; Social Connection, Goal Fulfillment, Growth, and Contribution. We will elaborate more on this terms throughout this report.

CHAPTER
02

LUCHA LIBRE

Lucha libre, Mexico's vibrant style of professional wrestling, is known for its colorful masks, high-flying acrobatics, and dramatic storytelling. It reflects Mexican culture's love for spectacle and heroism, with luchadores often seen as modern-day folk heroes.

GENERAL INTRODUCTION

This chapters starts by introducing an overview of all the primary stakeholders involved, as well as the context in which this project takes place. We will do so by discussing background information concerning the experience design industry, its players, and its pain points. Then, we will zoom in a bit more on our -Cocolab - client and its role in this industry, as well as looking at their specific wishes and demands. We aim to capture all this in a problem statements, introducing the scope and the four main 4 research questions. We then discuss the approach we have followed for making this project come true.

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Phase Overview

As discussed in the chapter on Readers Information, we adhere to the double diamond structure throughout this report. With this chapter, we start the discover-phase of the first diamond. The following structure shows this current phase within the overall double diamond structure, in the context of this project.

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2.1 General Introduction

This section examines the role of meaningfulness in immersive experiences and the need for its assessment. While research offers insights into meaning-making, no established method exists to measure it from the visitor's perspective. This project aims to bridge that gap for Cocolab.

Every individual has an intrinsic need to seek purpose, significance, self-trancendence, and coherence in their life (Martela and Steger, 2016). Some experiences, particularly the ones that stand out of the ordinary, or, the extraordinary ones, are able to provide individuals in these intrinsic aspects of life. Immersive multimedia experiences, such as those by Cocolab (the client), are designed to achieve just this. By going beyond mere entertainment, and aiming to provoke reflection, emotional engagement, in the end, they aim to result in an experience that holds both personal or collective meaning.

The ability to measure how meaningful these experiences are, is becoming an important consideration in the field of experience design. Research from various fields, such as psychology (Schwartz, 1992), philosophy (Martela and Steger, 2016), and design research (Bastiaansen and Duerden, 2025), aims to provide and connect frameworks that allow us - (experience) designers - to understand where and how people derive meaning in life, and subsequently design experiences that are thus more meaningful. However, assessing the meaningfulness of immersive multimedia experiences from the visitor's perspective remains largely unexplored and presents several practical challenges - not least of which is determining what should actually be measured.

In short, no established method exists in the industry for assessing the meaningfulness of an immersive multimedia experience. As a result, gaps may arise in understanding visitors' unmet needs, preferences, and key takeaways - not just for Cocolab, but for the industry as a whole. Recognizing this challenge, this project aims to develop a method that will enable Cocolab to systematically and purposefully assess the meaningfulness of their immersive multimedia experiences.

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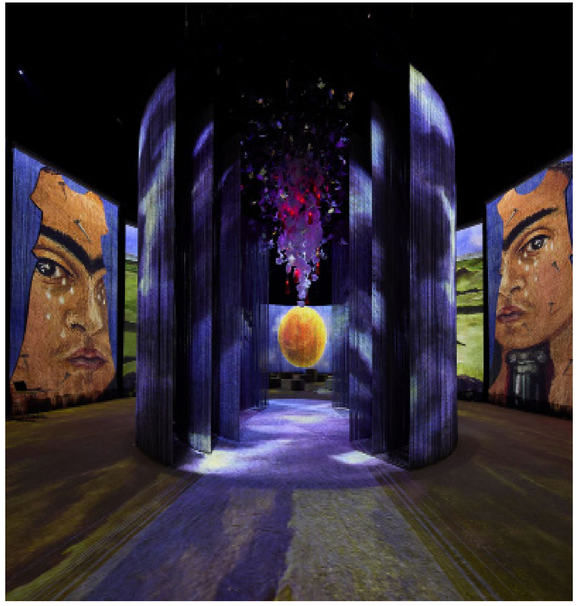

Image 2.1: Example of immersive multimedia experience by Cocolab: Frida Immersive (2021).

2.2 Cocolab and Research Collaborations

Cocolab, a Mexico-City based company specializing in designing immersive multimedia experiences by blending art, technology, design, and storytelling, is currently, through supporting this project, positioning itself at the forefront of this challenge. Despite being celebrated for works such as 'Immersive Frida' and 'Coco: Un Festival para Recordar (Coco: A Festival to Remember)', there remains a need to understand how their visitors understand, interpret, (p)reflect upon, and (hopefully) derive meaning from these experiences. By gaining deeper insights into the impact of their work on audiences, Cocolab aims to enhance visitor engagement, emotional connection, and overall satisfaction.

Cocolab is the leading Mexican experience design company and has been creating immersive multimedia experiences for over 15 years. They do this by blending art, technology, and entertainment (M. Melgarejo (Cocolab Lead Strategist), personal communication, 2024). Founded in 2007, Cocolab has consistently delivered these experiences to a diverse audience, and for and with a wide range of clients. As a medium-sized company, Cocolab is committed to ensuring that every visitor enjoys a positive and more importantly, meaningful, experience.

During these 15 years, Cocolab has worked for and with clients ranging from Walt Disney Animation Studios, the Bank of Mexico, the Mexican Government, Telcel, the G20, the Mexican Football Federation and many others. Their projects have been on display throughout Latin America, North America, Asia and Europe. Famous projects they have made come to live are 'Coco: Un Festival para Recordar', 'Echoes of Uxmal' and 'Immersive Frida'. These last two projects have respectively been selected for the Blooloop Innovation Award (Blooloop, 2021) and as one of the worlds best digital content solutions contributing to the UN SDG's in the category of Culture and Tourism by the WSA (World Summit Awards) (Frida Immersive | WSA, 2024).

Through a collaborative effort between the TU-Delft and Cocolab, we aim to bridge the gap between the theoretical understanding of meaning(fulness) and its practical application, implementation, and, which will be the focus of this project, evaluation. The ultimate goal of this project is to provide Cocolab with a robust method to assess and enhance the impact of their work, ensuring their experiences continue to be positive and, most importantly, meaningful.

In addition to the TU-Delft and Cocolab, this research project is supported in varying ways by InSpace, LUM, Josue Ibañez, and Mat Duerden.

2.3 Context and Relevance

As a company, Cocolab is active in the entertainment and leisure industry (M. Melgarejo (Cocolab Lead Strategist), personal communication, 2024). This industry, with a particular focus on entertainment, is defined by Stein and Evans (2009) as including everything from media (such as TV and Radio), music, film, video games, publishing, sports, theater, theme parks, casinos, gambling, shopping, travel and tourism, museums and special events. As one can observe, this field is extremely inclusive. Yet, it does share a common denominator: that of hosting entertainment value to its visitors (Getz and Page, 2016). According to Hughes (2000), anything that is considered entertaining is found to be pleasurable, diverting or fun. He does make a distinction between arts and entertainment performances, as "arts are usually associated with refinement and high culture while entertainment performances are more mainstream, or popular." In practice, the line between arts and entertainment are often blurry and hard to distinct, making it a subjective matter open to judgement (Cros, Jolliffe, 2014), and as we can see throughout projects of Cocolab themselves, such as Immersive Frida (FRIDA, 2025) or Teotihuacan (Light And Sound Show At Teotihuacán, 2025). The entertainment industry as a whole is primarily profit driven and provided to its audience by the private sector.

As the entertainment industry is undergoing fundamental changes lately, and traditional terminology cannot be trusted anymore (as Gertz and Page (2014) e.g. put it: "... so many events contain or feature entertainment, and many so-called festivals are really packages of concerts.") a need for new and innovative ways of understanding and categorizing experiences arises. These changes within the industry can partially be traced back to technological developments that allow for a more tailored and diverse spectrum of offerings. Changes not only occur in what (e.g. the technological developments) and how (e.g. more tailored offerings) entertainment is offered to the audience, but also to why the entertainment is offered to the audience in the first place. Fifty years ago, many organizations approached the creation of experiences with the primary goal of displaying objects or transmitting information to their visitors. Museums, for example, often served as passive repositories of knowledge, focusing on presenting artifacts without necessarily considering the emotional or cognitive engagement of their audiences (Falk & Dierking, 2016). Today, however, a growing number of companies and institutions are recognizing that the intention behind an experience - the why - matters deeply. Creating something truly meaningful for or with an audience, rather than merely showcasing content, has proven to be far more engaging and impactful (Pine & Gilmore, 1999). Meaningful experiences resonate with visitors on a deeper level, which in turn creates a more sustainable emotional connection, provoking reflection, and a sense of purpose (Schmitt, 2010; Martela and Steger, 2016).

As stated earlier, despite this ongoing shift towards creating more meaningful experiences, there remains a significant gap in the availability of robust assessment methods to measure meaningfulness in experience design. Existing evaluation frameworks often focus on visitor satisfaction, engagement, or commercial success (Packer & Ballantyne, 2016; Pine & Gilmore, 1999), but they lack the depth required to assess whether an experience truly resonates with visitors on a personal and transformative level. While some approaches attempt to capture emotional responses (Tarssanen & Kylänen, 2005), there is no widely accepted method to systematically evaluate how and to what extent an experience fosters coherence, purpose, and significance - key components of meaningfulness (Martela & Steger, 2016). This gap underscores the need for new methodologies that go beyond conventional metrics and instead tap into the deeper psychological and emotional impact of immersive multimedia experiences.

The key stakeholders within the entertainment industry can be broadly categorized into three overarching groups: promoters, creators, and producers (M. Melgarejo (Cocolab Lead Strategist), personal communication, 2024).

- Promoters: The entities responsible for marketing and promoting experiences, making sure they reach the right audiences.
- Creators: These are the individuals or organizations that take up the visionary roles behind an experience. They are responsible for conceptualizing the core idea or narrative and defining the artistic, thematic, and emotional goals of the experience.
- Producers: They oversee the practical realization of the experience. They manage the logistical, technical, and financial aspects of bringing the creators' vision to life.

Cocolab's primary focus is on the roles of Creator and Producer, however, orginizational changes that Cocolab is currently going through might enable them to also take up the role as Promotor in the (near) future.

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2.4 Research Scope

The first step towards assessing the meaningfulness of immersive multimedia experiences designed by Cocolab is to create a mutual understanding among academics, designers, clients, visitors about the concept "meaningful". Where does is it come from, how is it provoked, what does its presence cause, how subjective is it, and how can we potentially measure it? This project focuses on the intersection of visitors' subjective interpretations of meaning (what they personally find meaningful) and the designers' creative intentions (what they strive to communicate or evoke). Particular attention is placed on the factors that shape the (collective) evaluation of these experiences in a post-experience context.

The way in which visitors perceive meaning is highly influenced by individual factors such as personal values, emotions, and moods (Martela & Steger, 2016; Schwartz, 1992), as well situational and cultural contexts (Schwartz, 1992). As we will discuss in more detail later on in this report, it becomes therefore crucial to understand the visitors in the immediate context of the experience. Also, we need to align Cocolab's understanding and intentions of meaning with those created within and perceived by the visitor. We will need to understand how group dynamics promote, but also affect more natural assessment of experiences. Specifically, how does (collective) pre-flection and re-flection contribute to unified assessment, which in turn can provide deeper insight into the emergence of collective meaning.

Identifying potential gaps between Cocolab's intended impact and what visitors actually find meaningful will serve as one of the foundation for developing methods or tools to bridge these gaps. This, in turn, will enhance both the creative process and, most importantly, the visitor experience. This will be explored more in future chapters.

2.5 Solution Space

The envisioned design solution will take the form of a method that is grounded in and composed of a (variety of) scientific framework(s) related to meaningfulness, enabling Cocolab to evaluate the meaningfulness of their experiences in a structured and purposeful way. The primary focus will be on a post-experience setting and reflection, targeting visitors who have recently engaged with Cocolab's immersive multimedia experiences.

The method will consider tools and techniques that encourage both individual and collective reflection, such as (digital) surveys, interactive workshops, or digital platforms designed to capture feedback.

Lastly, the solution will incorporate insights from psychological and experiential design theories. We will not only consider immediate post-experience reactions, but also longer-term impacts, aided by re-flection and preflection.

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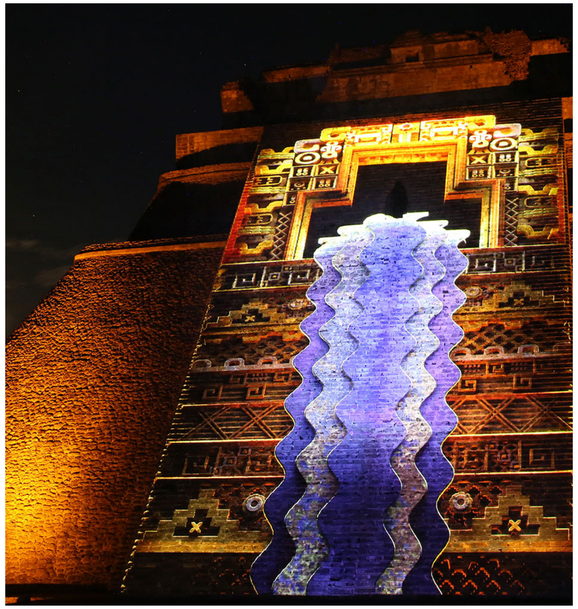

Image 2.2: Example of immersive multimedia experience by Cocolab: Echoes of Uxmal (2021).

2.6 Research Questions

Throughout the discover-phase, and based on the initial desk research conducted for the creation of the project brief, research scope, and solution space, we have developed four main research areas that will be explored during this project. Each area will be explored by the use of one main research question, and a larger set of sub-research questions that will be explored in the following section. Each area also has a set of sub research questions, that can be found in appendix C.

1. **Assessment Methods:** What are the most effective frameworks for assessing the meaningfulness of experiences in a pre- and post- experience setting?
2. **The Company: Cocolab:** What does one need to measure if one wants to understand the impact in terms of meaningfulness of Cocolab as a company on its visitors?
3. **The Visitor:** How does one include visitors collectively into the pre- and post-experience assessment of an experience?
4. **Experiences:** How does one assess a great variety of immersive multimedia experiences while refraining from interference with the experience itself?

2.7 Assignment

In order to be able to answer the research questions and subquestions posed in the previous section and attached appendix, we have created a design assignment that serves as a guiding beacon throughout this project. The assignment has been created taking into account the original project brief assignment to be found in appendix B, the scope and the solution space discussed earlier.

"To develop an assessment method that enables Cocolab to understand the perceived meaningfulness of their experiences by the visitors, by assessing visitors in a collective and post-experience setting."

Critical Insights

- Assessing the meaningfulness of experiences is becoming more and more important, but remains underexplored in the industry, as well as within in Cocolab.
- The entertainment industry is evolving, driven by technological advancements and shifting from passive content display to meaningful, engaging experiences.
- No established methods exist to assess the meaningfulness of immersive multimedia experiences.
- This project aims to create a method for Cocolab to systematically assess the meaningfulness of their experiences in a collective post-experience setting.
- Absolute assessment of the meaningfulness of an experience should be complemented by addressing the gap between the intended meaningfulness and the perceived meaningfulness.

CHAPTER
03

QUETZAL

The quetzal, a vibrant bird native to Mexico and Central America, symbolizes freedom and beauty in Mesoamerican cultures. Revered by the Aztecs and Maya, its striking green feathers were prized for ceremonial headdresses, reflecting the bird's sacred status.

COMPANY ANALYSIS

In this chapter, we aim to provide the reader with a detailed understanding of Cocolab as a company, its role in the industry, its visitors' perception of experiences, and its current approach to assessment. We will first discuss the general approach we have taken for this section of the discover-phase. The inquiry for this chapter is based on the research areas and (sub) research questions that we defined in the previous chapter. Note that the structure we maintain does not strictly follow that proposed by the research areas, as we only use those as a basis.

3.1 Research Approach

Based on the research areas and (sub-) research questions defined in the previous chapter, we start our inquiry. We have made use of (academic) search engines such as Google Scholar for finding relevant research articles. In addition, we have conducted 6 interviews with Cocolab experts from different backgrounds to get a better understanding of the company, its clients, and its role in the industry, each focussed on a different yet relevant set of sub research questions. See Appendix D for a detailed description of these interviews.

During the interviews we conducted with Cocolab experts, all six experts pointed out that their specific domain (read: the field of experience design) is relatively new, and can be considered unexplored terrain (M. Melgarejo (Cocolab Lead Strategist), personal communication, 2024; C. Moheno Pla (Cocolab Creative Director), personal communication, 2024; A. Machorro, (Cocolab CEO), personal communication, 2024; C. Godart (Cocolab Commercial Director), personal communication, 2024; P. Azuela (Cocolab Storytelling Director), personal communication, 2024; F. Linares (Cocolab Creative Director), personal communication, 2024). They all noted that especially research that helps to objectify the output of the industry - the experiences themselves, in terms of its intended emotional impact - is currently lacking. As M. Melgarejo (Lead Strategist) put it: “It is like a blindspot for the whole industry.” This was already noted in 2014 by Gertz and Page, who stated that, currently, research, especially within the newer dimensions of the entertainment industry, is lacking (Gertz and Page, 2014).

Within the context of the definition of entertainment industry by Stein and Evans (2009) as we discussed in the previous chapter, Cocolab is mostly active within at least four categories: museums, shopping, travel and tourism, and special event industry (Cocolab, 2024).

3.3 The Purpose

Why does Cocolab do what it does; creating immersive multimedia experiences? Throughout the years of its existence, Cocolab has defined and refined their purpose into its current form:

“Creating positive meaningful immersive multimedia experiences.”

According to the current CEO and founder of Cocolab, “every word in that sentence is important” (A. Machorro (Cocolab CEO), personal communication, 2024). It drives and motivates its people on a daily basis, and it is incorporated at the core of each project that Cocolab undertakes. As every word in the sentence is important to some extent, this sentence will be dissected and elaborated on in greater and lesser extent, in the following sections and chapters, with a particular focus on exploring the word ‘meaningful’.

“Creating positive meaningful immersive multimedia experiences.”

Cocolab’s purpose.

3.3 Experience Types

Within the four subcategories of the entertainment industry (museum, shopping, travel and tourism, and special event) (Stein and Evans, 2009), Cocolab is specialized in designing immersive multimedia experiences. The main purpose, as we just saw, is to deliver a positive meaningful immersive multimedia experience to its visitors. Within the field of immersive multimedia experiences, they have a range of mediums they use for fulfilling their purpose.

The five main mediums Cocolab deploysare listed below. In the end, these five mediums will serve as the physical context in which the assessment method will be used. Field research conducted in chapter 5 will show that for some of the mediums listed below, practical obstacles inherent to the nature of the medium will arise, posing practical consequences for the feasibility of the assessment method.

3.3.1 Immersive Walks

These are walks in extraordinary nature reserves, and historical and archaeological sites. These experiences are designed to be easily assembled and disassembled and to withstand harsh weather conditions (Cocolab 2024).

Image 3.1: Example of Immersive Walk at Teotihuacan by Cocolab.

3.3.2 Multimedia Shows

These are shows with innovative formats designed for openings, concerts and celebrations. They are set up to be temporary and are able to be toured (Cocolab 2024), such as COCO En Concierto.

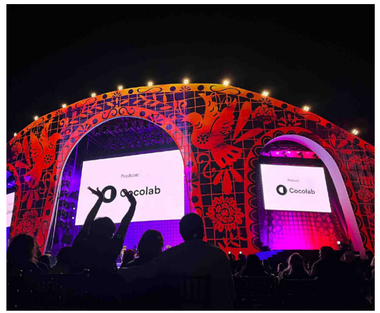

Image 3.2: Example ofMultimedia Show of COCO En Concierto by Cocolab and Disney.

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3.3.3 Immersive Exhibitions

Indoor tours are designed to tell stories in a multisensory way. Permanent or itinerant, they usually take place in exhibit, commercial or event venues. (Cocolab 2024).

Image 3.3: Example of Immersive Exhibition of Frida Immersive by Cocolab.

3.3.4 Installations

These are signature pieces by Cocolab that are driven by their curiosity and latest findings. They usually present them in new media and music festivals around the world. (Cocolab 2024).

Image 3.4: Example of an Installation: Illumina at Burning Man by Cocolab.

3.3.5 Multimedia Museography

These exhibition components are focused on the transmission of ideas and knowledge. They are part of temporary exhibitions, pop-ups, show rooms, and permanent collections in museums. (Cocolab 2024).

Image 3.5: Example of Multimedia Museography at the Victoria Museum by Cocolab.

3.4 Cocolab's Design Cycle - INSPIRE

We aim to understand how Cocolab designs and produces its experiences from the very first ideas at the start of a new projects, to the installation of the very last LED screen on site just before an experience opens its doors to the audience, so that we can create an understanding of the context in which the assessment method will be applied, and during what phases of this design process the (data-output after implementation of the) assessment method can potentially be used, in addition to assessment in a post-experience setting.

Cocolab engages in projects for and with their clients from the very first stages in which the desirability, viability and feasibility are tested, to the very last stages of a project during which experience is operated, maintained and opened to the public. They refer to themselves as a 'one-stop-shop for immersive multimedia experiences'. Cocolab works with a structured design process that gives shape to all of their projects, which is explained in the subsequent section.

In total, Cocolab has defined 6 main phases which each 3 subphases for their design process they call 'INSPIRE'. As Cocolab describes it themselves: "Every project is the beginning of a search for its social meaning. Whether it's objects, ideas, nature, institutions, or anything else, everything is ultimately a social product. Our approach starts with the interest in going beyond the surface of the obvious to detect how different objects of study impact people - what they make them feel, what ideas they evoke, what they mean to them - and thus find the story we want to tell". These 6 phases can be considered a collection of best practices, are constantly under development, and are designed to shape and guide their work (M. Melgarejo (Cocolab Lead Strategist), personal communication, 2024). The 6 phases and subphases are:

Program: Cocolab starts by researching and defining the project's vision, feasibility, and objectives, ensuring alignment between creativity, business viability, and audience desirability. The result is a clear Master Plan outlining goals, constraints, and strategic direction.

- DesirabilityDesiribility
- Viability and Desirability
- Objectives and Master Plan

Concept: At this stage, the overall experience strategy is developed, refining initial ideas into a structured creative and technical concept. The result is a Concept Design that includes experience themes, storytelling, and technical feasibility.

- Product Strategy
- Concept Design
- Concept Development

Design: Here Cocolab transforms the concept into detailed plans, including schematic design, technical specifications, and manufacturing documents. This results in Manufacturing Documents, providing blueprints for production.

- Schematic Design
- Design Development
- Manufacturing Documents

Implementation: Here, the focus lies on preproduction, manufacturing, and prototyping, ensuring that all elements are built according to the design. The output are Showroom-ready prototypes or final production units.

- Preproduction
- Manufacturing
- Showroom

Integration: Here, Cocolab ensures installation, calibration, and harmonization of all elements to ensure the experience functions seamlessly. We are now left with a fully operational installation that is ready for testing and adjustments.

- Installation
- Calibration
- Harmonization

Operation: The final stage prepares for launch, running final tests, and overseeing the live experience, including ongoing maintenance and evaluation. Finally, Cocolab now has a fully functioning and evaluated experience.

- Pre-Opening
- Showtime
- Operation, Maintenance, Measurement, and Evaluation

3.5 Cocolab's Current Approach to Assessment

In the past, Cocolab has experimented with various assessment methods to measure how well an experience meets its initial objectives from the visitor's perspective. These efforts also aimed to engage stakeholders, evaluate marketing success, and predict commercial outcomes. However, all attempts faced significant challenges:

- Surveys via QR Codes: Visitors could complete surveys after scanning a QR code at the end of an experience, but conversion rates were low, and the data collected was shallow and misleading.
- Pre-Opening Assessments: Friends and family attended test runs and provided feedback through surveys and interviews. While data quality improved, bias and low participation remained issues.
- Neuroscientific Measurements: Smartwatches tracked visitors' brain activity, but technical difficulties and difficulty linking data to specific content rendered results impractical.
- Gamification for Engagement: An earlier research collaboration in the form of another graduation project explored using gamification to increase participation in assessment, but the data lacked depth and was unsuitable for professional use.

The key challenges identified throughout these earlier assessment methods are listed below.

- Low Conversion Rates: Visitors showed little willingness to participate in assessments.
- Shallow or Misleading Data: Collected data often failed to provide actionable insights.
- Technical & Practical Limitations: Some methods, like neuroscientific tracking, faced feasibility issues.
- Bias in Pre-Opening Assessments: Testing with insiders led to skewed results.
- Lack of Planning for Assessment: Many projects started without considering assessment, leading to difficulties later.

Additionally, highover we can conclude there is no standardized approach to assessment at Cocolab, and no clear focus on, and understanding of how to evaluate the meaningfulness of an experience specifically. The existing - more qualitative - efforts have primarily focused on visitor satisfaction, marketing success, and commercial viability, rather than deeper insights into how visitors connect with and derive meaning from the experience. This stresses the need for a more structured and purposeful method to assess meaningfulness in Cocolab's experiences. As we have discussed in the previous chapter, it important to emphasize this need is not only felt by Cocolab as a company, but by the experience industry as a whole.

Finally, Cocolab currently also lacks a standardized assessment budget, since scope and resources are determined on a project-by-project basis (M. Melgarejo (Cocolab Lead Strategist), personal communication, 2024).

Critical Insights

- Cocolab's purpose is to create positive, meaningful, immersive multimedia experiences, and each word in this phrase is intentional and significant. The focus of this project will be on assessing the word 'Meaningful'.
- Within Cocolab, there currently is a lack of research on and a method for assessing the meaningfulness of an experience, particularly with a quantitative focus.
- Other obstacles Cocolab faced during earlier assessment attempts are low participant rates, shallow data, technical and practical limitations, and unwanted biases.
- Cocolab covers the full range of a project with their design process, possibly leading to opportunities for usage of the method beyond 'mere' assessment.

CHAPTER
04

CACTUS NOPAL

The nopal, or prickly pear cactus, is a symbol of resilience and endurance in Mexican culture. It holds significant cultural and culinary importance, featuring in traditional dishes and the Mexican coat of arms, representing the Aztec legend of Tenochtitlán's founding.

MEANINGFUL EXPERIENCES

In this chapter, we explore the core metric of our assessment method - Meaningfulness. We begin by revisiting the purpose of assessment before breaking down meaningfulness into two key criteria: the generation of insights and the connection of those insights to an individual's sources of meaning in life. Finally, we examine the concepts of preflection and reflection and their role in the assessment process.

4.1 Purpose of Assessment

We start our inquiry by focusing on the first two research questions - “What are the most effective frameworks for assessing the meaningfulness of experiences in a pre- and post- experience setting?” and “What does one need to measure if one wants to understand the impact in terms of meaningfulness of Cocolab as a company on its visitors? “ Here, it is important to start at the beginning. This means going back to the reason for assessment. Why does Cocolab want to assess their experiences in the first place? What are they planning on doing with the data obtained through this method? And, derived from the previously stated questions, most importantly: What does Cocolab need to assess? This is what we will explore in this section.

Cocolab, as a company, as stated earlier, has a purpose. The purpose of Cocolab is to create positive, meaningful, multimedia experiences (M. Melgarejo (Cocolab Lead Strategist) and A. Machorro (Cocolab CEO), personal communication, 2024). This purpose is considered to be at the heart of the company. Every project that Cocolab engages in, being it for a client or initiated on their own, needs to have this purpose at the core of the project. Currently, within the company, there exist 2 mechanisms that make sure this purpose is integrated into the core of a project, as well as making sure it stays aligned throughout the execution of the project.

One would be a selection committee, which determines whether a project, and the client that proposes it, is suitable for Cocolab, not only from a business perspective, but also from a purposeful perspective. The committee does not maintain a strict and scalable method for assessing experiences when determining whether a project and client are aligned to their vision, yet has a open conversation during which they explore this matter. As discussed, different assessment methods, deployed also during the initial phases of a project, have been implemented, without arriving to a structured process as of yet (M. Melgarejo (Cocolab Lead Strategist), personal communication, 2024).

Secondly, after a project has been selected for execution, Cocolab currently aims to maintain this alignment throughout the project by the use of (more qualitative) concept validation moments. After a project has been selected, certain objectives are agreed on that are aligned with Cocolab’s purpose, as well as the specific wishes of the client. After certain concepts, MVP’s or prototypes have been developed that are potentially to be used during the project, small samples of the target audience are invited to engage with it. Questions such as “Did they understand this message?”, “Did they interact with the prototype in the right manner?”, “Did they like it?”, and “Would they pay $400 MXN for a ticket?” are being asked to see if alignment with the objectives set at the beginning of a project are being realised (M. Melgarejo (Cocolab Lead Strategist), personal communication, 2024).

Despite efforts to integrate Cocolab’s purpose into the core of each of project, and keeping it aligned throughout the project, Cocolab currently does not have a systematic and scalable method that allows them to prove with confidence that they are actually succeeding in this; that they are actually fulfilling their purpose. Yes, more empirical discussions, evaluations, and check-ins with the relevant departments and target audiences throughout a design process are facilitated where possible, but not to the point where they could answer the question: Are we creating positive meaningful immersive multimedia experiences? This leads us to the following reason for assessment: being able to provide proof to themselves, and to the outside world - such as clients, and perhaps even visitors - that they are fulfilling their purpose.

At Cocolab, every project, and every new engagement with a client, is unique. They always strive for perfection and quality. As their business development director puts it: “We are not cheap in Mexico. But we are good.” (C. Godart (Cocolab Commercial Director), personal communication, 2024). In the emerging niche industry in which Cocolab is active, highover, currently, two business strategies are being maintained. The first is to create as many experiences as possible, regardless of their quality. The aim? To have as many customers as possible. A second, more niche strategy, is to create fewer experiences, yet make sure that quality is always paramount (C. Godart (Cocolab Commercial Director), personal communication, 2024). To make every experience a hit. Cocolab, within Mexico, currently is in pole position within the niche market of the second strategy, creating quality immersive multimedia experiences. Cocolab creates about 10 to 15 experiences a year, and continuously tries to improve its experiences, and the design processes resulting in the experiences, to maintain this pole position.

Quantitative data on the quality of the experiences that Cocolab designs is still missing, as we have discussed. Currently, throughout projects, this results in decision making processes that do not include informed decision making in the context of fulfilling the purpose. Note, this does not mean informed decision making does not happen at all. As mentioned before, focus groups, interviews, surveys, and other tools are used to inform decision making during a project. However, currently, the aim of these tools is mostly to improve concepts for usability purposes, and to measure commercial succes. Assessment is done in an ad-hoc manner that depends on the project (budget) and/or the client.

To conclude, this means that a gap still exists in using informed decision making for analytical and iterative purposes in the context of fulfilling the purpose of Cocolab: creating positive meaningful immersive multimedia experiences, with the emphasis on meaningful.

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4.2 Assessment in the Industry

Lastly, it is observed that Cocolab is not alone in this. Within the entertainment and leisure industry, currently, still no method exists that allows creatives or companies to measure or assess to what extent their experiences have added meaning to their visitor’s lives. The industry is currently going throughthough a transformation. More and more, companies are starting to realize that striving for the creation of a meaningful experience for its visitors is beneficial for both the visitor, as well as the company that has created the experience in the first place.

Including aspects into an experience that on one hand enhance the meaning for the visitor, and improve brand image for the company, is one thing. Being able to provide proof to yourself, your clients, and your visitors, that you actually managed to do so, is another. There is a number of frameworks - mostly used among academics - that allow to measure to what extent values have been met (e.g. Schwartz (1992) and put in practice by Ballentyne et al. (2014)), which (fundamental) needs have are present (e.g. Maslow (1968)), or what emotions were evoked during an experience [source], or more particular, interaction with a product [source]. However, as mentioned, one problem is that this still has set little to no foot in the practical grounds of the entertainment and leisure industry in which Cocolab is active. Another problem that arises, is that these assessment methods currently are relatively one sided. Yes, measuring the emotions evoked, values met, fundamental needs present, is one thing. Yet, coupling this to enhanced meaning in life is another. Also here, there is substantial research. Frameworks exists that allow to create an understanding of what the dimensions are that create meaning in life [Martela & Steger, 2016; Duerden, 2025], or what sources humans use to draw this meaning from in the first place [Duerden, 2025]. Still, we found that frameworks that establish a clear connection between the experience, the visitor, and the creation of meaning in the life in of the visitor, are absent, let alone measurable.

This ‘problem’ can be transformed into an opportunity for Cocolab if it manages to address this gap. It might provide Cocolab with a competitive advantage over other companies that currently do not work yet with assessment methods that allow for uncovering meaning in their experiences. This advantage does not only unfold itself during business talks with clients during which Cocolab could prove their commitment to creating truly meaningful experiences. As argued before, assessment also allows for improvement or aligning experiences that are currently in development, with the purpose of Cocolab. This potentially results in experiences that are recognized as truly meaningful for its clients, and, more importantly, for its visitors.

To conclude, three main reasons for the assessment of the projects of Cocolab have been identified through desk and field research with experts from Cocolab. All of the identified reasons are important in their own way, and support each other.

- Figuring out to what extent a project is contributing to the fulfillment of Cocolab’s purpose is one reason.
- A second reason would be to derive actionable data from the assessment that allows Cocolab to improve current and future projects, and their design process.
- The third reason to assess is to gainis gain a competitive advantage over other companies that are active within the leisure and entertainment industry. This not only happens at the ‘business table’, where direct advantage can be obtained through showing commitment to fulfilling the purpose. Also, by having data that allows for improvement, Cocolab can gain an advantage by having experiences that are more meaningful than others.

4.3 What exactly needs to be assessed?

We have now arrived at the research questions that lies closest to the core of this research project, and will most probably requires most elaboration in its answering. By answering this question, by truly understanding what it is that we want to know from an experience, or the audience that went through an experience, we allow ourselves to start exploring what specific techniques, frameworks, and theories are out there that might support and enable this assessment. Identifying what needs to be assessed has been done through both desk and field research, in the form of interviews with Cocolab experts, talking to other experts from the field, and conducting small scale research experiments.

But first, let us go back to the beginning again, Cocolab's purpose: "Creating positive meaningful immersive multimedia experiences." As argued before, one of the three reasons for Cocolab to assess their experiences in the first place is to be able to see to what extent their experiences are meeting this purpose. Are they truly meaningful? Addressing this objective leads us to the main item of assessment: meaningfulness. How we have defined meaningfulness in the context of this project, what it is composed of, where its sources originate from, and how we will objectify it, will be discussed later. Meaning, or meaningfulness, is a complex matter that requires extensive elaboration to create the required understanding for assessment. As A. Machorro (Cocolab CEO) mentioned, "Meaningful" can be considered the most important word of the sentence. Secondly, once achieved, created, or delivered by the experience, "Meaningfulness" can be considered the aspect of Cocolab's purpose with the highest impact. Lastly, by solely focusing on assessing the meaningfulness, we allow ourselves to develop a more focused assessment method.

Now that we have identified our main dimension of the assessment method - meaningfulness - we can start to create a mutual understanding of the term "Meaningfulness", before we select and adjust a (set of) framework(s) in which we will try to understand and measure it. Firstly, we will focus on how experiences are perceived by visitors, and how meaning is subsequently created within the visitors of an experience. We will conclude this part of our analysis by focusing on the 'framework of extraordinary experiences' as discussed by Duerden (year). Subsequently, we will distill two criteria from this framework that will set the stage for purposeful assessment of the meaningfulness of an experience. We will then start focusing on the assessment of the generation of insights within a visitor by an experience (Criteria 1). Secondly - and this will require a rather extensive inquiry, as we will aim to bridge the gap from the abstract conceptualization of meaningfulness to the concrete value framework of Schwartz - we will focus on assessing the extent to which insights have been connected to someone's sources of meaning in life. Lastly, these two aspects will be brought together by exploring their interdependent relationship, and the creation of, as M. Duerden put it: "Meaningful experiences with a capital M" (M. Duerden (Professor in Experience Design), personal communication, 2024).

4.3.1 Meaningfulness, the Origin

The question of meaning in life has been and remains an eternal and existential topic of inquiry for humanity. It taps into the very essence of our existence, our purpose, and our sense of our fulfillment. The search for meaning in life can be traced back to the ancient civilizations, in particular the ancient Greeks, who first formalized it in philosophical terms. One of the earliest and most influential expressions used to capture (part of) our current understanding of the concept is the word of eudaimonia (εδαιμονία), a term put in the context of meaning in life by Aristotle. While it is often translated into 'happiness' or 'welfare', it more accurately refers to the condition of 'good spirit' or 'human flourishing', or 'a life lived in accordance with virtue and reason' (e.g. Annas, 1995; McMahon, 2006).

Aristotle's concept of eudaimonia was not simply about superficial pleasure or joy (often referred to as hedonia or hedonic tradition, see Deci and Ryan (2006) and Schwartz (1992)), but about a deep, sustained sense of purpose and alignment with one's true nature or values. To achieve eudaimonia, one needed to live a life of moral virtue, intellectual activity, and fulfillment of one's potential [source to Aristotle?]. This early conceptualization set the stage for centuries of thought on the nature of a meaningful life, which would continue to be developed by philosophers, theologians, and, more recently, psychologists (Ryff, 1989). Yet, our current understanding is complemented by other influential and more recent works from a psychodynamic and humanistic psychological angle such as those by Jung (1933), Rogers (1962), and Maslow (1968). They did so by introducing psychological processes that emphasize individual self-discovery, growth, and fulfillment.

Even more recent explorations of the concept of meaning in life acknowledge the concept of eudaimonia, yet provide explanations that suggest the existence of other dimensions to meaning in life as well (Wong, 2010, 2012; Leontiev, 2006; Reker and Wong, 1988, Martela and Steger, 2016).

"For one swallow does not make a summer, nor does one day; and so too, one day, or a short time, does not make a man blessed and happy."

"μία γαρ χελιδὼν εαρ ου ποιεί, ουδ' ημέρα μία· ουτως ουδε ευδαίμονα ουδε μακάριον μία ημέρα ουδ' ολίγος χρόνος." (Nicomachean Ethics, 1098a18)

4.3.2 Trichotomic Framework

These other dimensions have been researched by Martela and Steger (2016) - among many others. They aimed to provide a more structured understanding into meaning in life. They have proposed a trichotomy of meaning in life that, upon exploration, allows us to get a comprehensive understanding of the concept. By laying the meaning of life over a classic taxonomy of behaviour, three separate components to personal meaning in life could be distinguished (Reker and Wong, 1988, 2013; Battista and Almond, 1973), that form the basis of the framework proposed by Martela and Steger and that are widely acknowledged (Martela and Steger, 2016). The framework that Martela and Steger propose speaks of three ('sub')dimensions that can be found within the highover concept of meaning in life, or meaningfulness. They speak of 'coherence', 'purpose', and 'significance'. We will discuss each dimension briefly before connecting it to the 'Sources of Meaning in Life'-framework by M. Duerden (2025) that allows us to understand more about a contribution to meaning in life, in the direct context of an experience.

Even more recent explorations of the concept of meaning in life acknowledge the concept of eudaimonia, yet provide explanations that suggest the existence of other dimensions to meaning in life as well (Wong, 2010, 2012; Leontiev, 2006; Reker and Wong, 1988, Martela and Steger, 2016).

4.3.2.1 Coherence

This component of meaning in life is about making sense of one's experiences and recognizing patterns in the world that render it comprehensible and structured. It is often understood as the cognitive aspect of meaning, and involves understanding life in a way that makes it feel logical and predictable (Reker & Wong, 1988).

4.3.2.2 Purpose

Purpose, in the context of Martela and Steger (2016), can be understood as the future oriented aspect of meaning that focuses on having clear goals and a sense of direction. The perspective where meaning in life is established when having a clear purpose in life, is inspired by the work of Victor Frankl (1963). Purpose provides people with with a reason to strive toward long term goals, which in turn gives significance to their present actions, once aligned with these long term goals.

4.3.2.3 Significance

The last dimension identified by Martela and Steger (2016) is that of significance. It is the dimension of meaning in life that touches upon the aspect of value, worth, and importance of someone's existence: affectivity. It is understood as a sense that one's life is inherently valuable and worthwhile (Morgan and Farsides, 2009), independent of happiness or other similar experiences (Wolf, 2009). This dimension lies closed to the concept of eudaimonia discussed earlier, and can also be linked to the Japanese concept of Ikigai, that which most makes someone's life worth living (Sone et al, 2008).

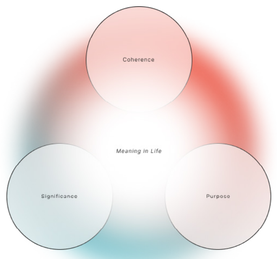

Image 4.1: The three dimensions of Meaning in Life by Martela and Steger (2016) ~ Source: image by myself

4.3.3 The Definition

Now that we have identified and explored the three dimensions of meaning in life as proposed by Martela and Steger (2016), we can use their definition to provide a better understanding of the concept as a whole. Meaning in life emerges from the web of connections, interpretations, aspirations, and evaluations that (1) make our experiences comprehensible, (2) direct our efforts toward desired futures, and (3) provide a sense that our lives matter and are worthwhile. Meaning in life means to rise above merely passively experiencing life, to a level that allows for reflection so that one can make sense of life, provide it with direction, and find value in it (Martela and Steger, 2016). We can derive from this definition that achieving meaning in life is a dynamic and evolving process, shaped by past experiences and aimed toward future aspirations. Its creation and sustenance require active engagement and personal reflection from the individual.

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4.3.4 Meaningfulness in the Context of Experiences

In works such as those by Martela and Steger (2016), meaning in life is often put in the broadest context possible: that of a human life(time). It requires one to acknowledge, as stated earlier, that it is a dynamic and evolving, ever ongoing process. Trying to apply this definition of meaning directly in the context of the experiences as designed e.g. by Cocolab comes with a certain complication. Cocolab's experiences are not designed to last a lifetime. Instead, usually, Cocolab's experiences last from 1 to 5 hours. Within this relatively short time span, it becomes difficult - if not impossible - to measure if meaning in life has been achieved.

We should aim to put our understanding of the creation of meaning in life in the context of an experience that lasts less than 5 hours. This means, instead of asking: 'Did Cocolab's experience create meaning in life for the individual?', the question we should be asking ourselves: 'To what extent did Cocolab's experience contribute to a sense of meaning in life of that individual.' This way, we play by the rules of the "meaning in life game" by acknowledging that a Cocolab experience on its own will not create meaning in life as this is an ever ongoing process, yet it (potentially, and hopefully) contributes to an overall sense of meaning in life. This way, Cocolab's experiences can be understood as building blocks that contribute in certain ways to an individual's overall sense of meaning in life.

4.3.5 Sources of Meaning in Life

The notion discussed in the previous section, can be understood better once we introduce the framework of 'Sources of Meaning in Life' by Duerden (2025) to the equation. Duerden proposes to steer away from the domain-general conceptualization of meaning in life as proposed by Martela and Steger (2016), as Duerden (2025) puts it, and instead of exploring the dimensions of meaning in life, we now will focus on what sources provide meaning in life to these dimensions, and how they do so. We will bridge from higher levels of abstraction of the concept of meaning in life, to lower levels that are closer the experiential settings in which individuals find themselves everyday. Duerden proposes that there are four dimensions that feed to some extent into the previously discussed dimensions of coherence, purpose, and significance: Social Connection, Goal Fulfillment, Growth, and Contribution. We will explain these sources of meaning in life briefly.

4.3.5.1 Social Connection

Meaning emerges from relationships, belonging, and shared experiences, reinforcing coherence (understanding one's place) and significance (feeling valued).

Image 4.2: Example of creating Scoial Connection through gathering with friends.

4.3.5.2 Goal Fulfillment

Pursuing and achieving personal goals fosters purpose (direction in life) and significance (a sense of accomplishment).

Image 4.3: Example of Goal Fulfillment by obtaining your aviation license.

4.3.5.3 Growth

Learning, self-improvement, and overcoming challenges enhance coherence (understanding oneself) and purpose (developing toward something meaningful).

Image 4.4: Example of feeling Growth by graduating.

4.3.5.3 Contribution

Helping others or serving a greater cause strengthens purpose (a reason beyond oneself) and significance (making an impact).

Image 4.5: Example of Contribution by helping immigrants with food packages.

4.3.6 From the Ordinary to the Extraordinary

Now that we understand what the dimensions of meaning in life are (coherence, purpose, and significance), and what sources someone can draw meaning from (social connection, goal fulfillment, growth, and contribution), we can start exploring how contribution to the creation of meaning in life is created from an experience. For this, we use the 'Duerden's experience type framework' to help us understand what makes one experience ordinary, and the other extraordinary (Duerden et al, 2018). The notion of separate experiences, or experiential episodes, or moments, are the result of a process during which individuals activate certain existing mental models to help them segment their stream of consciousness (Bastiaansen et al, 2019). These segments, or experiences, are mostly perceived as ordinary and leave no lasting long term impact on an individual'sindivival's life (Duerden, 2025). This brings us to the first of the two categories within Duerden's framework, the ordinary experiences; our daily lives. While most experiences are perceived as ordinary, it is the second category that receives most attention: the extraordinary experiences. Within the category of extraordinary experiences, Duerden et al. (2018) distinguish three different layers: 'Memorable Experiences', 'Meaningful Experiences', 'Transformative Experiences'.

Within the framework, Duerden et al. (2018) mention certain criteria (C1, C2, and C3 in the image above), or thresholds, that need to be crossed in order for an experience to go from ordinary to memorable, memorable to meaningful, and from meaningful to transformative.

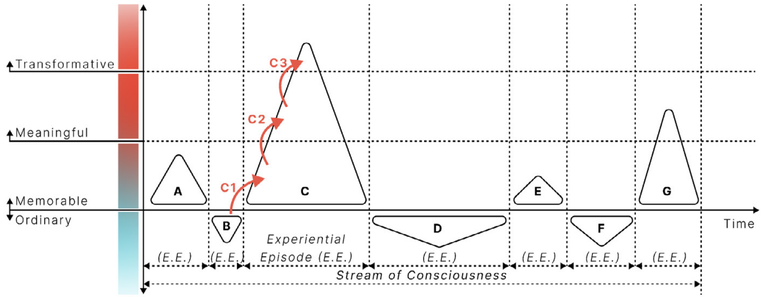

Image 4.6: showing the three layers of extraordinary experiences, as part of a sequence of experiential episodes that together form a stream of consciousness (Duerden, 2018). ~ Source: image by myself

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4.3.6.1 Layer 1: Memorable Experiences

In short, memorable experiences are characterized by the combination of remembering the experience, and the feeling of strong emotions. So for an experience to become memorable, the process (remembering the experience) needs to be complemented by a certain experiential quality (strong emotions) (Duerden et al, 2018).

4.3.6.2 Layer 2: Meaningful Experiences

If one wants to extract meaning from an experience (in other words, make the experience contribute to meaning in life), one cannot simply depend on the memorability of an experience. The second layer of extraordinary experiences - that of meaningful experiences - requires reflection upon the experiences, that allows for more intentional cognitive unpacking of that experience (Boud et al., 2013; Duerden, 2024/2025). This, in turn, can result in the creation of lessons or insights. Duerden (2025) builds on Palacio et al.'s understanding of reflection as "a process of meaning-making from an experience over time" (2021). The process of reflection, will be discussed in more detail in later sections.

After the generation of insights, the insights must be connected to someone's sources of meaning in life in order to make the experience truly meaningful (Duerden, 2025). In short, this now means we can now distinguish a process (reflection), and an experiential quality (the reflection leading to insights connected to one or more sources of meaning in life). This process of connecting insights to sources of meaning in life is called autobiographical reasoning (Singer and Buck, 2001).

To conclude, for an experience to become meaningful, or to contribute to meaning in life for an individual, through reflection, the experience must generate insights that subsequently must be connected to that individual's sources of meaning in life.

4.3.6.3 Layer 3: Transformative Experiences

Lastly, yet out of scope for this project, we briefly discuss the highest level of Duerden et al.'s framework: the integration of these lessons or insights into one's daily life; transformative experiences (Duerden et al., 2018). If an experience causes someone to integrate the derived insights into this person's own life, which in turn leads to a long-lasting and sustainable transformationtranformation, we speak of a transformative experience (Duerden et al, 2018).

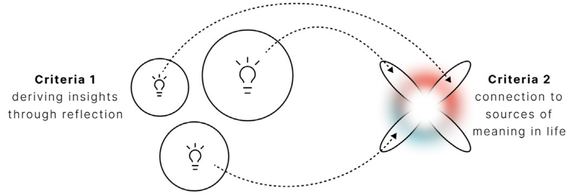

Image 4.7: Image showing the criteria for meaningful experience (insights through reflection + connection of insights to sources of meaning in life) (Duerden 2025) ~ Source: image by myself

Critical Insights

- 'Meaningfulness' or 'Meaning in Life' need to be understood in the context of Cocolabs project. This means that we acknowledge that a Cocolab experience does not generate meaning for a visitor, yet contributes to a visitor's overall perception of meaning in life. If this is the case, a visitor perceives the experience as meaningful.
- The Meaning in Life framework as proposed by Martela and Steger (2016) is an abstract conceptualization of the term, and is being placed in a more concrete experiential setting by Duerden (2025) by introducing the Sources of Meaning in Life.
- There are two steps or criteria for an experience to become meaningful for a visitor.
- Firstly, the experience needs to generate insights through reflection.
- Secondly, these insights need to be connected to the sources of meaning in life as proposed by Duerden (2025).

4.3.7 Cocolab's Purpose in the Framework

When putting Cocolab's experiences in the context of Duerden's on framework extraordinary experiences - and by taking Cocolab's purpose into account - we can see that the aim of Cocolab is to create experiences that make it (at least) to the second layer of the framework: that of meaningful experiences. As a consequence, for a Cocolab experience to reach the layer of meaningful experiences, a process of peri or post experience reflection, and the experiential quality of this reflection leading to the formation of insights that can be connected to one or more sources of meaning in life, needs to be facilitated. Assessing to what extent these criteria have been met or fulfilled by the experience, should thus be the main focus of our assessment method. In this chapter, we examine which existing frameworks we leverage for the assessment of the two criteria, and, subsequently, for the overall meaningfulness of an experience. This means we will focus on assessing the following two processes:

- The generation of insights within the visitors of an experience through the facilitation of pre and (mostly) post experience reflection.
- The connection of the generated insights to the visitors' sources of meaning in life.

Firstly, we will discuss the assessment of the first process in the following sections, after which we will focus on the assessment of the more - as we will soon see - abstract second process. In the last section of this chapter, we will briefly explore the interdependent relationship between the two processes.

4.3.8 Generating the Insights

In this section, we will discuss how the generation of insights can be facilitated by reflection, and, most importantly, assessed. We will start by seeing how a Cocolab experience aims to generate insights within the visitor of an experience, after which we discuss suitable frameworks for the assessment of these insights. Lastly, we see how we can facilitate the generation of these insights by refection, in the first place, as this is a process that does not come naturally for most people (Gelter, 2003).

4.3.8.1 Insight Generation by Cocolab

In this section we aim to uncover what types of insights can be derived from a Cocolab experience, and how we can understand the generated insights within an established framework. To understand better how and what kind of insights can be derived from a Cocolab experience, we adhere to the analogy that is often used within Cocolab: the Trojan Horse (M. Melgarejo (Cocolab Lead Strategy), personal communication, 2024; A. Machorro (Cocolab CEO), personal communication, 2024). In the context of Cocolab, the Trojan Horse refers to the idea that there exists a separation between what is shown to the visitor - the aspects of an experience that appeal to a specific target - and the highover message that Cocolab aims to get across to this target audience. Just as the Trojan Horse contained a hidden purpose, the external features of a Cocolab experience - its sights, sounds, and interactive elements - act as a vehicle for a deeper, more universal message. While the 'exterior' may appeal differently to children or adults, the 'interior' meaning should remain accessible and meaningful to all.

The outside of the horse - the positive immersive multimedia experience - is considered a means to get the inside of the horse - the meaningful learning objective - to the target audience. Currently, an experience of Cocolab is designed in such a way that it contains elements that appeal in more or lesser extent to all of the target audiences selected for the specific experience. If we consider the example of the Frida Kahlo experience again, this means that for adults with deep knowledge of Frida Kahlo, the experience might include rare archival material or in-depth analysis of her lesser-known works. For children or more casual visitors, the experience may offer interactive activities or interactive visuals that introduce key aspects of Kahlo's life and artistic style in a more engaging and accessible manner. In short, we are aligning the content of the experience with CPVP of various target audiences within the experience. The aim of these elements is not merely to entertain the specific target audience, but also to prepare them for their intended 'learning curve'. They contain the motivations for each target audience to have come to the experience in the first place, and, through the fulfillment of these motivations, Cocolab aims to convey the main theme of the experience. As mentioned, getting the inside of the horse - the main theme - across to the target audience, is one of the - if not the - main objectives of the experience. This theme is constructed during the early stages of a projects life time: the 'Program' and 'Concept' phases. Cocolab aims to construct this theme in such a way that it is connected to the topic of an experience, that it allows for connection with the target audience, and to show the artistic stance that Cocolab has on the topic.

The theme is often a universal truth that is encapsulated by a single word, that is vectorized by a supportive sentence. This single word can be considered the "soul" of the experience. The vectorization of the message happens by integrating the topic, the elements that connect

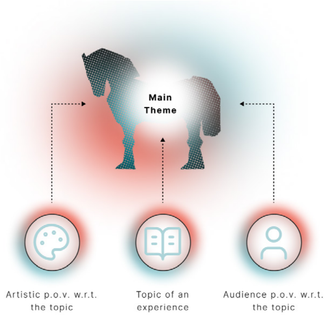

Image 4.8: showing the interplay between the artistic p.o.v. w.r.t. the topic the topic of an experience, and the target audience] ~ Source: image by myself

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to the target audience, and the artistic point of view of Cocolab (M. Melgarejo (Cocolab Lead Strategy), personal communication, 2024). We consider this vectorized message of the experience to be the main theme of the experience. Below we see an example of vectorizing the theme into the main theme of an experience:

- Topic: Leonora Carrington
- Theme: "Freedom"
- Vectorized Message or Main Theme: "Freedom is not a destination, it is a constant search."

In short, the main theme of an experience represents the highest level of understanding that Cocolab intends to facilitate. This theme is intentionally embedded within the 'Trojan Horse' of the experience - 'hidden' within the positive immersive multimedia elements and ultimately designed to be 'revealed' through reflection. Since these main themes align with visitors' perspectives on the topic and encapsulate abstract yet universal truths, we consider their comprehension of the main theme to be the maximum extent to which an experience can intentionally generate insights. In other words, the process of recognizing and internalizing the main theme through reflection is what constitutes the generation of insights in a Cocolab experience. Therefore, assessing whether visitors arrive at this understanding becomes a key measure of the experience's effectiveness fulfilling criteria 1: the generation of insights, and subsequently, in being meaningful.

4.3.8.2 Understanding the Main Theme

In the previous section, we concluded by saying that the understanding of the main theme of an experience is the maximum extent to which Cocolab intentionally generates insights within the visitor. In this section, we will discuss and subsequently select a framework that allow us to what extent a visitor has understood the main theme of an experience, and thus to what extent insights have been generated. Note, that sometimes in the subsequent sections, we will refer to the generation of insights with the term 'learning', as we believe that an insight needs to be learned, or understood, before it can effectively be connected to one's sources of meaning in life.

To understand what kind of frameworks for assessment can be applied in the context of assessing the generated insight by an experience, it is important to understand what kind of learning happens in the first place, why it has been applied, and what the context is which it is being applied. Based on this, a suitable framework can be selected that allows us to help analyse to what extent the learning objectives of an experience have been met. As we have already created an understanding into why, and in which context (see previous sections and chapters), learning is provoked, we will only focus on which learning theories are being applied in Cocolab's context.

In educational and professional - and in Cocolab's context: entertainment - settings, the aim is often for people to learn new things - whether it being new mathematical equations, how to behave in a social setting, or in Cocolab's case: what the meaning of an experience is. One can (un) consciously select one or more learning theories that form the basis of the learning environment in which you want your 'student' to achieve their or your learning objective. From our analysis, we can conclude that Cocolab uses a blend of transformative, situated, experiential, and hints of cognitive learning during their experiences in order to help people understand the meaning of an experience. We will now discuss these learning theories briefly, before we discuss and select a suitable candidate for assessment.

- Transformative learning theory focuses on promoting deep and meaningful changes in how individuals perceive themselves and the world around them. When putting this theory in the context of Cocolab's experience and Duerden's framework (2014) on extraordinary experiences, transformative learning aims to realize change by providing experiences in the second (meaningful experiences) or third layer (transformative experiences). Core to the concept of transformative learning is to provide an individual with a disorienting dilemma, provoke critical reflection, which potentially leads to the transformation of the perspectives (Mezirow, 1997).
- The focus of situated learning lies on learning within a specific context or environment. It suggests that learning is best achieved through engagement with real-world or authentic simulated scenarios. When put in the context of Cocolab's context, Cocolab provides the environment in which the visitor is considered an active participant in the realization of their own learning curve, rather than a passive observer. Often, the learning happens in so-called communities of practice: groups in which individuals participate in a shared activity that simulates a real life situation (Lave and Wenger, 1991).
- This learning theory can be considered a combination of the former two. It promotes hands-on engagement by the student through direct interaction with an experience, followed by reflection (Kolb, 2014). Experiential learning is closely tied to Cocolab, as it is in Cocolab's nature to create experiences that are immersive; mimicking a world that allows for emotional and intellectual engagement that provokes learning.
- Cognitive learning theories focus on the internal processes such as memory, problem solving, and understanding. While Cocolab mostly focuses on integrating more situated and experiential oriented learning theories, it also acknowledges and subtly integrates notions from from Constructivism and Schema Theory. Namely, Cocolab promotes their visitors to construct their perception of the meaning of an experience through exploration and understanding, as well as by adding new information to existing (mental) frameworks through the use of personas.

It is important to note that all the considered learning theories come from educational or professional settings, as there currently exists a lack of learning theories that help understand the learning experience of a visitor of an experience in the entertainment and leisure industry. This gap suggests that even though theories like transformative, situated, and experiential learning can be applied to Cocolab's context, they may not fully capture the unique ways in which individuals process and internalize the meaning from entertainment-focused experiences.

Secondly, it should be noted that Cocolab does not intentionally integrate these theories into their experiences. Rather, through close observation, it was noticed that elements of these learning theories

- probably among others - naturally emerge when visitors engage with Cocolab's experiences. The experience that Cocolab designs aim to provoke or stimulate transformative reflection, situational immersions, and experiential engagement, all facilitating to make a contribution to an individual's meaning in life. As such, while these learning theories are not deliberately applied, they do provide an understanding that helps explain how visitors derive knowledge, insights, and potentially the meaning of an experience from their interactions with Cocolab's experiences.

4.3.8.3 SOLO Taxonomy

As we now understand how Cocolab aims to bring across the main theme of an experience, what learning theories it (unintentionally) applies to do so, and in which context the learning experience is provided, it is important to try to frame this with a model for learning assessment. Several models have been considered, such as the Bloom's Taxonomy, Fink's Taxonomy, Dreyfus Model, and Perry's scheme. However, we have selected the SOLO Taxonomy (Structure of the Observed Learning Outcome) developed by Biggs and Collis (1982) for its systematic layered assessment on learning objectives, that range from having little to no understanding of a topic (in our case: the main theme), to being able to extend abstract concepts. It helps map the visitor's understanding of the core message, and the supporting elements, at various levels. In this section, we will create a more in depth understanding of the SOLO-Taxonomy.

As mentioned, the SOLO-Taxonomy allows us to understand the extent to which someone has understood a certain learning objective. It is a layered taxonomy, existing of five layers that increase in level of understanding as one moves up a layer. We will now discuss the five layers of the SOLO-Taxonomy.

1. Pre-Structural - At the pre-structural level, which is the lowest, there is little to no understanding. When assessed, learners at this stage might provide irrelevant or disconnected responses, showing a lack of grasp on the topic, or in our case, the main theme of the experience (Biggs and Collis, 1982).
2. Uni-Structural - The next level is uni-structural, where the learner focuses on one relevant aspect of the main theme but fails to connect it to the bigger picture. At this stage, responses are simplistic and demonstrate basic knowledge (Biggs and Collis, 1982).
3. Multi-Structural - Moving up, the multi-structural level is characterized by the learner identifying multiple relevant aspects of the main theme but treating them as isolated facts. Responses at this level are more detailed but lack integration (Biggs and Collis, 1982).
4. Relational - At the relational level, understanding deepens as the learner integrates multiple aspects into a cohesive whole, showing an understanding of how the parts are connected. Responses become analytical and demonstrate a structured grasp of the main theme (Biggs and Collis, 1982).
5. Extended Abstract - Finally, the highest level is extended abstract, where the learner goes beyond the immediate main theme to generalize, hypothesize, or apply their understanding in new contexts. Responses at this stage demonstrate critical thinking and the ability to relate knowledge to broader concepts (Biggs and Collis, 1982).

By mapping visitor reflections onto the SOLO Taxonomy, we can systematically assess the depth of insight generated by a Cocolab experience. E.g. if a significant portion of visitors reach at least the relational level of understanding, we can infer that the experience somewhat effectively facilitates meaning-making. Furthermore, identifying patterns in visitor responses can help refine how experiences are designed to encourage deeper reflection, ensuring that the 'Trojan Horse' successfully delivers its intended message.

It is important to note that Cocolab's intended main theme of the experience usually coincides with the relational or extended abstract layer of the SOLO Taxonomy. This is different from saying that it is Cocolab's intention to create an experience that effectively conveys a message at these levels. As we have discussed earlier, main themes serve as the 'soul' of the experience, determining the artistic and creative direction of the experience as a whole. Some experience are intentionally left abstract, not aiming for the creation of deep insights but e.g. merely a continuous feeling of awe or inspiration. The same goes for experiences aimed at e.g. younger audiences, who cannot be expected to grasp an abstract message such as that discussed in the context of Leonora Carrington. It is therefor important to make a distinction between understanding the main theme of an experience, and the intended understanding of the main theme of the experience.

4.4 Preflection and Reflection

We have stated earlier that the insights or understanding generated by an experience, will need to be provoked through reflection. In this section, we will briefly discuss the importance of reflection, and how it will look like in the context of Cocolab's experience. Duerden (2016, 2025) states that active reflection upon an experience is needed in order to derive insights from an experience. He describes that reflection upon an experience - before, during, or after - allows for more intentional cognitive unpacking of that experience.

Having said that, as stated earlier, reflection is not something that comes naturally to most people. Gelter states that "the conscious capability to reflect appears not to be an evolutionary old feature and genetically determined capability (...), but rather a historically recent learned feature, which could explain why reflection has not yet become a natural everyday activity in our life" (2003). Duerden suggests that this is why many experiences are not considered or perceived as meaningful (2024/2025). Reflection requires conscious action, unlike the creation of memories which is a spontaneous process (Duerden, 2025). This is why reflection needs to be triggered within the individual either before, during, or after the experience.

Duerden (2025) has identified different strategies for making the visitor reflect upon an experience during different stages - before, during, or after - of the experience, based on the different sources of meaning in life he has identified. Reflection after the experience that is tailored to the source of meaning in life of e.g. Contribution happens through Contribution Narratives, and Social Connection is established through Shared Narrative Construction.

When we place this understanding of (the need for) reflection in the context of Cocolab, it means Cocolab has to actively facilitate reflection in order to contribute to meaning in life for the visitors that come to their experiences. Currently, Cocolab does this by creating opportunities for reflection during their experiences (A. Machorro (Cocolab Lead Strategy), personal communication, 2024). They not only offer physical space and time within the experience for visitors to pause and reflect, but also go further by integrating the reflection into the experience on a more abstract level. Cocolab creates an immersive world that aims to strike a balance between guiding visitors to understand key sensory elements, while also leaving enough room for individual interpretation. This way, visitors are supported in deriving a deeper message from the experience, yet still have the freedom to internalize it in a way that aligns with their own personal values and understanding. The risk that Cocolab tries to mitigate here is described by Duerden (2025) as that "the potential design pitfall in reflection is the overscheduling of participants in experience so that reflective opportunities become nonexistent."

In short, we can conclude that reflection is a crucial aspect of creating meaningful experiences. Through reflection, one can derive insights from experience. Cocolab currently already engages in reflection during the experience, where it tries to provide space and time, and 'mental' room through ambiguity, for reflection to happen. However, reflection provoked by Cocolab does not happen according to a specific strategy, nor is it tailored to a specific target audience.

4.4.1 Reflection Framework

Reflection can be encouraged through various established frameworks, each offering a structured approach to processing experiences. Among these, Driscoll's What? So what? Now what? model (1994), Kolb's Experiential Learning Cycle (1984), and Atkins and Murphy's Model of Reflection (1994) are widely recognized. Each of these frameworks provides a structured means of guiding individuals through reflective thinking. However, after close examination, we have chosen Gibbs' Reflective Cycle (1988) as the most suitable framework for the method being developed.

Gibbs' Reflective Cycle was selected for several reasons. Firstly, it offers a clear, step-by-step structure that is particularly useful for guiding individuals through deep reflection. Secondly, unlike Driscoll's model, which is relatively simplistic, Gibbs' cycle includes a more nuanced approach to analyzing emotions and deriving learning outcomes. Similarly, while Kolb's cycle emphasizes active experimentation as part of experiential learning, Gibbs' model places greater emphasis on feelings and evaluation, making it more applicable to subjective, experience-based reflections. Lastly, compared to Atkins and Murphy's model, which is heavily focused on critical reflection and may be too detailed for general use, Gibbs' framework strikes a better balance between structure and accessibility, which makes it more suitable for implementation in the context of Cocolab's experiences. Gibbs' Reflective Cycle consists of six stages:

- Description: What happened? The individual recounts the experience in objective detail, focusing purely on facts without interpretation.
- Feelings: What were your thoughts and emotions? This step encourages the individual to acknowledge their emotions and reactions, as these influence how the experience is processed.
- Evaluation: What was good and bad about the experience? At this stage, the individual analyzes both positive and negative aspects, which helps to identify key takeaways.
- Analysis: Why did things happen the way they did? This phase explores the causes and underlying factors, drawing connections between actions and outcomes.
- Conclusion: What have you learned? Here, individuals synthesize their insights, considering how the experience has shaped their understanding.
- Action Plan: If faced with a similar situation, what would you do differently? This final step ensures that reflection translates into future improvements or behavioral changes.

As explained above, Gibb's Reflective Cycle consits of six steps. It is not crucial to complete all steps in order to provoke effective reflection, as e.g. step 5 and 6 in particular, set the stage for future iterations, rather than active reflection. The model also allows us to use it for preflective purposes, rather than reflective purposes, meaning the questions asked during each step can also be asked in a more anticipative and future oriented manner.

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4.4.2 Reflection Timeframe

Another important aspect to take into account when provoking reflection, is the moment of reflection. People have different perceptions of an experience after an experience is over. These perceptions do not only vary per person, but also over time for the same person. Research on so called memory consolidation suggests that information processing takes place after an experience, often during sleep. Studies indicate that waiting at least 24 hours before initiating reflection allows memories to stabilize and for participants to reflect more deeply on their experience. This aligns with the role of sleep in integrating emotions and meanings into memory (Walker & Stickgold, 2010). Studies in reflective practices (Moon, 1999) show that reflection often requires time and distance from the experience to transition from immediate impressions to a deeper understanding. More immediate responses, thoughts, insights, will be triggered or generated when reflecting on an experience in a 0 to 24 hours timeframe.

Another important notion to be aware of is the Ebbinghaus Forgetting Curve. This model shows that memory retention declines rapidly within the first 24 hours after an experience, but stabilizes afterwards. However, high-impact or emotionally salient memories (e.g., meaningful experiences) are retained longer and with greater clarity

Critical Insights

- Following the Trojan Horse analogy, the assessment method should move beyond the surface entertainment elements of an immersive multimedia experience, and aim to uncover the understanding of the main theme of an experience.
- The main theme of an experience can be considered the highest intended level of understanding of an experience.
- We introduce the SOLO Taxonomy for understanding the extent to which the main theme of an experience has been understood by a visitor.
- Reflection (and preflection) should be provoked actively either by the experience, or the assessment method, as it does not occur naturally within people.
- We use a free interpretation of Gibb's Reflective Cycle to actively provoke reflection and preflection within the visitors.
- Reflection should take place in a 0 to 48 hours timeframe after the experience, which allows us to balance more deeper reflection and the prevention of decreasing memory retention.

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4.5 Connecting the Insights

This section will focus on discussing the second criteria of meaningful experiences: the connection of generated insights through reflection to someone's sources of meaning in life. First, we will discuss how insight can be connected to someone's sources of meaning in life, after which we will focus on how we can understand the extent to which this has occurred for an individual. Finally, we conclude with an explanation of the selected, yet altered, framework for assessing the extent to which insights have been connected to someone's sources of meaning in life.

4.5.1 Why do we Experience?

Understanding how generated insights can be connected to someone's sources of meaning in life, requires us to go back to the beginning. We will start by asking ourselves the question: Why do we experience? And why do we all experience, to some extent, something different, even if we are presented with the same physical input?

Experiencing something does not 'just' happen to us - it is the result of millions of years of evolution shaping Homo Sapiens into the species we are today. Like all living organisms, we possess specialized body parts that capture, process, and analyze various types of information crucial for our survival, both as a species, and as individuals. This ability to respond to sensory information with appropriate behaviors helps us - and other living organisms - adapt, survive and thrive in our environment (NASA Astrobiology, 2024).

Different species have developed unique methods for obtaining the information they need in order to do so. In humans, this is accomplished through the five senses: Sight (Vision), Hearing (Audition), Taste (Gustation), Touch (Somatosensation), and Smell (Olfaction). The raw data captured by these senses include e.g. light wavelengths that give a leaf its green color, the temperature of a coffee cup, and the chemical compositions responsible for a tomato's taste. However, this raw data alone does not directly inform us about the objects themselves, or let alone their meaning to us. For instance, the mere presence of lightwaves associated with the color green does not inherently identify an object as a leaf.

4.5.1.1 Bottom-Up Approach

According to prediction-based hierarchical Bayesian models, we recognize and understand our surroundings by integrating sensory inputs (Clark, 2013; Hubel & Wiesel, 1965; Marr, 1982; Biederman, 1987). For instance, identifying a leaf from a tree involves visual cues (oval shape, green color), sound (rustling), texture, and scent. This data-driven process, where perception builds from raw sensory input, is known as the bottom-up approach.

4.5.1.2 Top-Down Approach

However, how do we know it's a leaf? Our brain uses prior knowledge - learned experiences, instincts, expectations, and context - to predict and interpret sensory input (Clark, 2013). Instead of merely processing raw data, the top-down approach allows us to anticipate what we expect to perceive. If we see a green, oval object in a forest, our brain predicts it to be a leaf before full sensory confirmation. These predictions are constantly refined as new information updates our perception, enabling efficient navigation of our environment.

4.5.1.3 Integration

Perceiving a leaf - rather than just an oval, green shape with a rough texture - requires integrating both bottom-up and top-down processing. As Clark (2013) explains, "It is the dance between the raw data (bottom-up) and the expectations (top-down) that creates our perception of the world." Our brain constantly compares sensory input with prior expectations, generating "error messages" when mismatches occur. We refine our perception by gathering more sensory data until expectations and input align sufficiently. This process allows us to assign meaning to sensory data, which is a phenomenon known as Transparency of Perception (Clark, 2013).

4.5.2 The Perception of Meaning

As argued, a leaf does not simply make a leaf merely based on the sensory input it provides to the individual that aims to perceive it. According to Clark (2013), it is the complementation of this raw sensory data with knowledge, instincts, expectations, and context, that helps the individual help perceive the leaf.

When we put this conceptualization of perception in the context of Cocolab, we can start to see the contours of the creation of meaning on an individual level. Just like the leaf, an experience is only perceived as meaningful, when the complementation of the bottom-up and the top-down approach result in an error message that is small enough to make us conclude and say: “This experience is meaningful (or contributed to meaning in my life)”. The experience itself - the music, the colors, the smells, the visuals, the information provided, the theme, etc. - for the sake of our understanding, we can put it in the category of raw sensory input (the sensory input for the bottom-up approach). It is important to note this thus also includes the insights generated through reflection, as this falls under the categories of ‘information’ and ‘theme’ as discussed in the previous sentence. The instincts of the visitor, the context in which the experience is experienced, the knowledge that the visitor already had on the topic or theme, the expectations that the visitor had with respect to the experience, and, as we will see in the following section, someone’s (contextual) personal values and thus the ability to connect the generated insights to someone’s sources of meaning in life, help give shape to the top-down approach.

As one can see, the perception that an experience is meaningful, or contributed to meaning in the life of the visitor, on an individual level, is subject to many factors, even if we only take into account the top-down approach. Here, it is important to start introducing frameworks that allow us to take a more systematic approach to understanding how a contribution has been made to one’s perception of meaning in life. The concept of ‘autobiographical memory’ as proposed by Singer and Bluck (2001) will help us start to create this understanding. In short, Singer and Bluck propose two mechanisms that individuals engage in to create autobiographical memory: ‘narrative processing’ and ‘autobiographical reasoning’.

Narrative processing is the construction of storied accounts of past events or experiences. In practice, this means segmenting one’s life into moments that are characterized by vivid imagery, familiar plot structures, and archetypal characters, and are often linked to predominant cultural themes or conflicts (Singer and Bluck, 2001). This is in line with earlier presented findings of Bastiaansen et al., who proposed that individuals segment their stream of consciousness into experiential episodes that we identify as moments (2019).

Subsequently, these events are reasoned about, interpreted, and evaluated through autobiographical reasoning. People make sense of their personal histories by aligning life events with their personal values and identity. This in turn helps people extract meaning from the experiences (Singer and Bluck, 2001; Bluck and Habermas, 2001, McAdams, 1985, 2001).

Here, it is crucial to note that by aligning the events or experiences with personal values and identity, meaning can be extracted. The personal values of an individual can thus be interpreted as the lens through which individuals assess their dimensions of meaning as proposed by Martela and Steger (2016). This means that coherence (the sense that life makes sense), purpose (the sense of having direction), and significance (the sense that life matters) are interpreted through the individual’s values and identity, in the context of the experience. We can now conclude by saying that the alignment of an experience with someone’s (contextual) personal values, facilitates the establishing of connections between someone’s sources of meaning in life and generated insights by the experience. This means that we need to understand the extent to which someone’s contextual personal values have been fulfilled, in order to understand to what extent criteria 2 of meaningful experiences - the connection of insights to someone’s sources of meaning in life - has been realized.

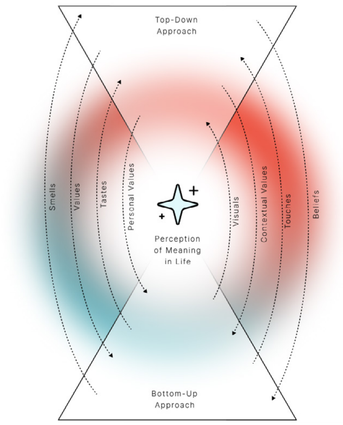

Image 4.9: The cration of perception of meaning through the bottom-up and topd-down approach ~ Source: image by myself

4.5.3 Value Theory

In the previous sections we have discussed the importance of understanding someone’s contextual personal values and their fulfillment, in order to understand the extent to which criteria 2 of meaningful experiences has been met. Therefor, it is now that we introduce the values theory as proposed by Schwartz (1992). Schwartz’s value theory allows to create an understanding of an individual’s motivation, and, more importantly, perception of meaning in life, as an expression of the personal values of that individual. Personal is a tricky yet important word to use in this context, as Schwartz’s research shows that universal structures of values and their relations exist that transcend the notion of culture or context, yet individuals and specific groups vary greatly in the relative importance they contribute to particular values (Schwartz, 1992, 2006).

Schwartz’s value theory find its roots in the works of Durkheim (1897/1964) and Weber (1905/1958) that identified values as crucial for explaining social organization and change (Schwartz, 2012). Schwartz has identified 6 main characteristics of values that helps us conceptualize the theory (Schwartz, 2012).

- Values are beliefs linked to emotion: When activated, values evoke strong feelings. For instance, those valuing independence feel distressed when it’s threatened and happy when it’s protected.
- Values refer to desirable goals: They represent goals that drive behavior, such as justice or helpfulness motivating people to pursue those outcomes.
- Values transcend specific actions and situations: Unlike norms, values like honesty and obedience are relevant in various settings, from work to social interactions.
- Values serve as standards or criteria: They serve as standards to evaluate actions and decisions, often unconsciously influencing what people see as good or bad.
- Values are ordered by importance: Individuals rank their values, placing more importance on some, like achievement or tradition, over others.
- The relative importance of multiple values guides action: Most actions reflect multiple values, and people navigate competing priorities depending on the context, such as balancing tradition with hedonism.

It is important to note that all values as identified by Schwartz share this set of characteristics. It is the goal that is being expressed by a specific value, that separates one value from another. In his model, Schwartz identifies ten different values that are present in one or more of the four different dimensions of his model. These dimensions form the structure of the value model and explain the relations between the values. The four dimensions are coupled in opposing pairs that conflict with or ‘undermine’ the existence of the other opposing dimension within the pair (Schwartz, 2012).

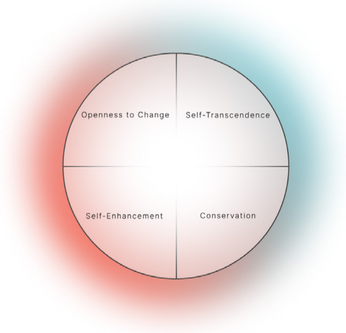

Image 4.10: The Value Dimensions as proposed by Schwartz (1992) ~ Source: image by myself

4.5.3.1 Openess to Change and Conservation

By contrasting these two dimensions, Schwartz shows the conflict between values that focus on independent thinking, action, openness to change (Values of Self-Direction & Stimulation), and values that focus on order, restriction, resistance to change, and preservation of the past (Values of Security, Conformity, and Tradition) (Schwartz, 2012.

4.5.3.2 Self Trancendence & Self-Enhancement

By contrasting these two dimensions, Schwartz shows the conflict between values that focus on independent thinking, action, openness to change (Values of Self-Direction & Stimulation), and values that focus on order, restriction, resistance to change, and preservation of the past (Values of Security, Conformity, and Tradition) (Schwartz, 2012).

4.5.3.3 Values

Each dimension of the value model by Schwartz consists of 2 or more values. In total, Schwartz distinguishes ten different values. The ten different values that Schwartz identifies in his model are:

1. Self-Direction - Openness to Change - Defining Goal: Independent thought and action, choosing, creating, and exploring. Bandura (1977) and Deci (1975) argued that self-direction stems from a need for control and mastery over one's environment, as well as the importance of autonomyautonamy and independence in human development (Kluckhohn, 1951; Kohn & Schooler, 1983). This category include creativity, freedom, curiosity, independence, and choosing one's own goals.
2. Stimulation - Openness to Change - Defining Goal: Seeking excitement, novelty, and challenge in life. The value of stimulation arises from our need for variety and stimulation to maintain a positive and balanced level of activation (Berlyne, 1960). It is closely related to the desire of self-direction. This value includes the pursue of a varied life, an exciting life, and daring behaviour.
3. Hedonism - Openness to Change & Self-Enhancement - Defining Goal: Pursuit of pleasure and sensuous gratification. Hedonism derives from basic human needs and the satisfaction derived from fulfilling them (e.g. Freud, 1933; Williams, 1968). This value is about pleasure, enjoying life, and self-indulgence.
4. Achievement - Self-Enhancement - Defining Goal: Personal success through competence according to societal standards. This values focus on demonstrating competence to attain social approval and success (ambitious, successful, capable, influential). Competent performance is essential for both individual survival and the success of groups and institutions, aligning with prevailing cultural expectations (intelligent, self-respect, social recognition).
5. Power - Self-Enhancement - Defining Goal: Social status, prestige, and control over people and resources. Power values comes from the need for social status differentiation (Parsons, 1951) and the dominance/submission dynamic in social relations (Lonner, 1980). Power values also reflect individual desires for dominance and control (Allport, 1961). This value includes authority, wealth, and social power, and attaining a dominant position within society.
6. Security - Conservation - Defining Goal: Safety, harmony, and stability of society, relationships, and self. Security values covers the basic need for stability (Maslow, 1965). They can focus on individual security or group security, but both express a desire for personal safety and well-being. This value includes social order, family security, and reciprocation of favors.
7. Tradition - Conservation - Defining Goal: Respect, commitment, and acceptance of cultural or religious customs and ideas. Tradition values represent shared group experiences and beliefs that are passed down over generations (Durkheim, 1912/1954; Parsons, 1951). These values symbolize solidarity and the group's survival, which often manifesting in religious practices and norms. The value of tradition involves subordination to long-standing expectations, unlike conformity, which responds to current norms.
8. Conformity - Conservation & Self-Transcendence - Defining Goal: Restraint of actions and impulses that might upset or harm others or violate social norms. Conformity values encourage self-restraint to maintain group harmony and smooth interaction. These values focus on the importance of adhering to social expectations, particularly with close others. It includesothers It includes obedience, self-discipline, politeness, honoring parents and elders, being loyal, responsible.
9. Benevolence - Self-Transcendence - Defining Goal: Preserving and enhancing the welfare of those in frequent personal contact. This value reflect the importance of caring for the in-group, such as family and close friends (Kluckhohn, 1951; Maslow, 1965). They promote voluntary concern for others' well-being (being helpful, honest, forgiving, loyal, responsible). Benevolence contrasts with conformity by providing an internal motivation to help, rather than acting to avoid personal consequences.
10. Universalism - Self-Transcendence - Defining Goal: Understanding, appreciation, and protection of the welfare of all people and nature. Universalism extends beyond the in-group and arises from recognizing global needs for survival and environmental sustainability. Failure to embrace tolerance and protect resources can lead to conflict and ecological collapse. Universalism promotes the welfare of both society and nature, and includes social justice, equality, world peace, protecting the environment, inner harmony, unity with nature, and wisdom.

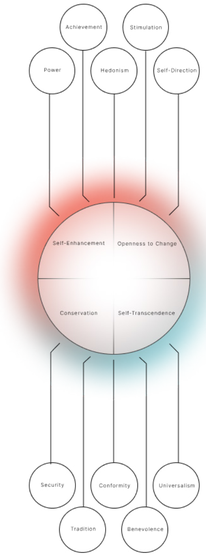

Image 4.11: The 10 Values within the 4 Value Dimensions as proposed by Schwartz (1992) ~ Source: image by myself

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4.5.4 Contextual Personal Value Profiles

As mentioned before, the relative importance of values vary from person to person - it can be considered a spectrum or profile - and can and most probably will even vary from context to context when considering only one person. It is a constant tradeoff among the most relevant values that construct one's attitude and behaviour. If a particular value is more important (to an individual) in a particular context, then that value is more likely to be activated (Schwartz, 1992, 1996, 2012). It is the interplay between one's personal value profile, the context in which this personal value profile is placed, and other factors, that leads to the formation of one's contextual personal value profile (CPVP).

In his works, Schwartz examines the influences of three different types of context on the expression of one's value priorities (1996). The context he differentiates in are the voting in national elections, cooperative behaviour, and the openness to contact with members from a minority group. In all three cases it becomes apparent that the context in which values profiles are placed is of great influence to the value priorities that are activated within the person. Schwartz uses the word 'psycho-logic' to describe this phenomenon of the internal and subjective way that individuals psychologically process balance, and act upon their values, which can be influenced or distorted by the broader social environment, or, in other words, the context. A similar study by Luna and Gupta (2001) showed that advertising highlighting self-enhancement values (e.g. power and achievement) are more well received in individualistic societies. Advertisements that emphasized self-transcendence values (e.g. universalism and benevolence) resonate more in collectivist societies.

In order to find out how strong the effects are of a specific context that is similar to those of Cocolab's experiences, and how 'serious' we should take these effects into account in the context of this project, we have conducted an experiment to see the relation between changing contexts and changing value profiles. You can read a more elaborate explanation of the set up of this experiment in appendix E. The outcome of this experiment was in line with the results presented by Schwartz (1996), as a clear shift in preferred values could be noted once participants were placed in the context of a specific experience. Interestingly, we not only observed a shift in preferred values, but also, on a more highover experience level, a convergence towards one specific value dimension, meaning that many of the participants, once put in the context of an experience, prefer the same value over others, as opposed to a more even distribution that was noted in the participants' generic lifes.

Critical Insights

- Understanding criteria 2 - the connection of insights to someone's sources of meaning in life - required us to examine why we experience and how perception plays a role in the formation of meaningfulness.
- Someone's values determine the lens through which someone determines whether an experience contributes to their overall sense of meaning in life.
- We propose the use of Schwartz value profiles, understood in the context of an experience, to determine to what extent an experience fulfilled criteria 2 of meaningful experiences. This means we will need to understand someone's CPVP, and to what extent it has been fulfilled by the experience.

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4.6 Connecting the Dimensions of Assessment

We have now discussed both dimensions that need to be assessed with the (to be developed) method in order to see to what extent an experience was meaningful, and thus to what extent Cocolab is fulfilling its purpose as a company. Assessing criteria 1 - where we look at the generation of insights - we do through aligning the SOLO Taxonomy with the main theme of an experience by Cocolab. Secondly, we assess criteria 2 - the connection of insights to someone's sources of meaning in life - by looking at the fulfillment of someone's Contextual Personal Value Profile (CPVP). In short, we will call these assessment dimensions SOLO and CPVP.

As we have already hinted towards in previous sections, the two dimensions of assessment are considered interdependent. In this chapter, we explore what this interdependency looks like in practice, and what the potential consequences are for the assessment method.

In order to understand the interdependent relationship these two dimensions of assessment have, we will discuss how they conceptually influence each other. First, we will see how the SOLO influences the CPVP. As a visitor, understanding the main theme of an experience (as intended by Cocolab), provides you with an anchor point for reflection, especially when the SOLO is (un)intentionally tailored to the CPVP of a specific visitor. Higher levels of engagement and learning can be achieved when an experience is tailored to the CPVP of a visitor (Ballentyne, 2019). When we place this finding in the context of this discussion, we can conclude that these higher levels of engagement and learning (read: a deeper understanding of the main theme of the experience), increase the chance of linking insights from this experience to sources of meaning life, one of the two main criteria for a meaningful experience (Duerden, 2025). More importantly, when increased levels of SOLO have been achieved by the experience (people thus have a higher level of understanding of the main theme of the experience) they can make more sense of the experience, which in turn feeds into the dimensions of meaning in life, particularly that of coherence.

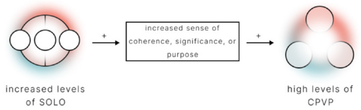

Image 4.12: The influence of SOLO on CPVP ~ Source: image by myself

Secondly, we will discuss the influence of the CPVP on the SOLO. Following the same rhetoric as discussed in the previous paragraph, we see that if a visitor finds the experience to be aligned with their CPVP, they are more likely to engage deeply with it. Deeper engagement, in turn, helps increasing the likelihood of understanding the main theme of an experience, as intended by Cocolab. This is in line with research by Fredericks et al., who propose that deeper engagement with content occurs when individuals are emotionally invested (2004).

Image 4.13: The influence of CPVP on SOLO ~ Source: image by myself

As a last step, we aim to look at the added value of the fulfillment of the two identified dimensions of assessment. We have already established that a synergetic relationship exists between the two dimensions. The fulfillment of one contributes to the other, and vice versa. Logically, the reverse also holds true: if one dimension is undermined, it can diminish the effectiveness of the other.

When both the CPVP and the SOLO are fulfilled, a reinforcing loop is created. A visitor who finds an experience to be aligned with their CPVP (high CPVP) is more likely to engage deeply with the content, which enhances their understanding of the main theme of the experience (high SOLO). In turn, a deeper understanding of the experience's main theme (high SOLO) provides a more robust foundation for reflection, making it easier for the visitor to link generated insights from the experience to sources of meaning in their life.

Ensuring the fulfillment of both dimensions results in an experience that resonates both emotionally and intellectually, and can be considered meaningful from both the visitor's and Cocolab's perspective. We can now call this experience Meaningful, with a capital M (M. Duerden, personal communication, 2024).

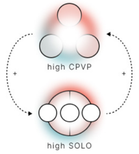

Image 4.14: The the reinforcing loop of CPVP and SOLO ~ Source: image by myself

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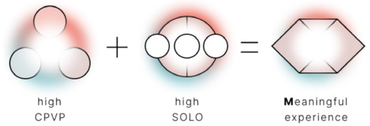

Image 4.15: summation of SOLO and CPVP resulting in a Meaningful experience ~ Source: image by myself

Critical Insights

- The SOLO and CPVP are interdependent and are positively correlated.
- Creating an experience that ensures the generation of insights that score high in the SOLO taxonomy and that aligns with someone's CPVP, results in the experience being perceived as meaningful.

CHAPTER
05

CACTUS

Cactus, with its spiky exterior and ability to thrive in harsh environments, is a symbol of resilience in Mexican culture. Widely seen across Mexico's landscapes, it plays a crucial role in traditional cuisine, medicine, and folklore, embodying the country's spirit of endurance and resourcefulness.

FIELD RESEARCH

This chapter aims to deepen our understanding of how experiences unfold in practice and how conversations about meaning and collective reflection can be facilitated. To achieve this, we will briefly discuss three experiments which were conducted following the desk research phase. These experiments were designed to explore practical aspects of experiences, including how they are perceived in real-time, how a collective can discuss their shared experience, and how meaning can be addressed on an individual level. The experiments were strategically chosen to address gaps that had not yet been sufficiently explored or validated in practice. The chapter begins by providing a brief overview of the context and rationale behind the experiments. It then details the methodology and procedures employed in each, concluding with an analysis of the results and the insights gained.

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5.1 Background and Rationale

Over the course of the desk research phase, we have explored the industry, the company, and the academic foundations of meaningfulness. This included an examination of the entertainment industry's evolving landscape, Cocolab's mission and processes, and theoretical frameworks such as Schwartz's value theory, Martela & Steger's model of dimensions of meaning in life, and Duerden's model of extraordinary experiences. Additionally, we introduced the SOLO Taxonomy and CPVP for respectively assessing the extent to which insights were generated and connected to the sources of meaning in life. These efforts provided a solid foundation for understanding the broader context of meaningful experiences and set the stage for the following more focused, practical explorations.

The desk research has offered us valuable insights into the purpose and dimensions of the to be designed assessment method. Now, it is necessary to move beyond theory and broaden our understanding in a practical and layered manner. This requires shifting focus from the macro-level insights about the concept of meaningfulness, the company, and the industry, to the practical, more micro-level dynamics of experiences themselves, and the visitors within.

The first step (and experiment) is about exploring the practical experience level - examining how Cocolab's experiences are perceived and assessed in real-world scenarios. From there, we will delve deeper into the collective level, investigating how groups of visitors engage with and reflect on shared experiences. Finally, we will explore the individual level, particularly focusing on how non-academics - e.g. Cocolab's visitors - articulate and make sense of meaning in relation to the experiences they encounter. By structuring the research across these levels, we start to put our theoretical understanding into a practical context.

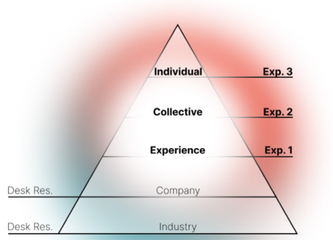

Image 5.1: The layers that will be covered by each experiment ~ Source: image by myself

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5.2 The Experiments

As mentioned in the previous section, each of the three experiments is aimed provide us with insights on different practical levels of and within experiences, collectives, and individuals. In this section, we will briefly discuss the set-up and outcomes of each experiment. For a more elaborate explanation on the experiments conducted, I refer to appendix [F, G, and H].

5.2.1 Experiment 1

This experiment was conducted at COCO En Concierto, a large-scale immersive experience organized by Cocolab in collaboration with Disney (among others) at Plaza de Toros, Mexico City. The primary objective was twofold: first, to gain firsthand experience of a Cocolab production in practice, and second, to identify practical considerations affecting the development and implementation of an assessment method.

The method involved structured observations of audience behavior, logistical flows, and potential assessment moments. Observations were conducted before, during, and after the show, with data collected through spontaneous photography and handwritten notes.

Key insights revealed that post-experience assessment at large-scale, one-off events (such as Coco) is highly challenging, especially due to the rapid exit flow of attendees, and (unforeseen) logistical constraints such as bad weather. While pre-show moments (e.g., at the food court) and breaks in the program allowed for potential engagement, these were unsuitable for meaningful post-experience reflection - as the experience had not been fully 'experienced'. Consequently, successful assessment in similar contexts may require pre-arranged participation or on-site incentives to ensure visitor engagement after the experience.

Image 5.2: Impression of COCO En Concierto by Cocolab and Disney (2024) ~ Source: image by myself

Image 5.3: Impression of Leonora Carrington prototype by Cocolab (2024) ~ Source: image by myself

Image 5.4: Impression of reflective session after Leonora Carrington experience (2024) ~ Source: image by myself

5.2.2 Experiment 2

This experiment was conducted at Cocolab's office and producton site in Mexico City as part of the development of Leonora Carrington, an immersive exhibition by time of the experiment still in development. The primary objective was to test the feasibility of a structured, collective assessment session in a controlled post-experience setting.

The method involved a guided reflective session with six participants following their interaction with the experience prototype. The session was structured around two key frameworks: (1) the SOLO Taxonomy, to analyze the depth of insights generated and (2) the CPVP, to see what the visitors' CPVPs were and to what extent they were fulfilled by the experience. Data was collected through voice recordings, photographs, and structured reflection sheets.

Key insights revealed that participants engaged well with the structured assessment but needed additional guidance in some areas. The CPVP and SOLO frameworks provided a solid foundation for structured reflection, though some participants found the format too rigid, limiting free expression. Additionally, the order of discussion topics influenced engagement levels, suggesting that a more gradual build-up to deeper reflection could improve the reflective process. It was also noted that asking participants for their CPVP in a post-experience setting led to responses that were potentially shaped by the experience itself. To mitigate this, a more effective approach might be to obtain participants' CPVP before the experience and then assess their CPVP Fulfillment post-experience. Consequently, future iterations of the method will refine the session structure, focus on adjusting the sequencing and timing of discussion topics, and introduce greater flexibility to promote more open-ended reflection.

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5.2.3 Experiment 3

This experiment involved seven semi-structured interviews conducted in person or over Zoom, focusing on how participants articulate and interpret meaningful experiences. The primary objective was twofold: first, to assess the ease or difficulty with which individuals engage with the topic of meaning, and second, to identify any mutual understanding or differences in how they define and describe meaningfulness.

The method involved 30-minute to 1-hour semi-structured interviews with participants personally known to the interviewer. A predefined set of open-ended questions guided the conversation while allowing flexibility to explore unexpected emerging topics. Data was collected through voice recordings, handwritten notes, and AI-assisted transcriptions.

Key insights revealed that framing the discussion around the participants' CPVPs rather than abstract and more direct concepts like 'meaning' or 'meaningfulness' led to more understanding and effective engagement. While participants struggled to define "meaningfulness," they easily discussed what was important to them in specific contexts (their CPVPs). Additionally, familiarity with the interviewer helped encourage openness but may have introduced bias. Most participants found it difficult to recall distant experiences in detail, while others noted that immediate post-experience reflection might lack depth, suggesting an optimal reflection window between these extremes in line with research conducted in chapter [x]. Consequently, future iterations of the assessment method should prioritize clear, participant-friendly language (e.g. CPVP, rather then discussing 'meaningfulness' directly), refine question framing, and consider the timing of reflection to balance immediacy with depth.

Critical Insights

- The Coco En Concierto experiment revealed that assessing experiences in large, one-off events is difficult due to logistical constraints, rapid audience exit flow, and environmental factors. On a broader scale, this implies that the assessment method needs to be adaptable and tailored to the specific context of any given experience - large events require different approaches than small and more controlled settings.
- Potential assessment moments exist before and during the experience, but meaningful post-experience reflection requires pre-arranged participation or incentives to ensure engagement, especially in the context of large-scale events.
- The Leonora Carrington experiment showed that structured reflection sessions using SOLO Taxonomy and CPVP are effective but need adjustments. There was a need for greater flexibility and a more gradual buildup of and better timed discussion on topics to enhance reflection, to prevent the participants from feeling overwhelmed.
- The Meaningful Interviews experiment showed that participants struggled to define 'meaningfulness' but could easily discuss their CPVPs. Thus, framing questions through CPVPs leads to more understanding and better engagement than direct abstract discussions of 'meaning'.
- The timing of reflection is crucial: immediate recall may lack depth, while distant recall can be vague, which indicates the need for a balanced reflection window.

CHAPTER
06

AXOLOTL

The axolotl, an aquatic salamander native to Mexico's lakes, is a symbol of resilience and regeneration in Mexican culture. Revered by the Aztecs and featured in modern science, this unique creature highlights Mexico's rich biodiversity and deep connection to nature.

DESIGN CRITERIA

In this chapter, we will propose a set of design criteria that will form the basis of the second diamond of the double diamond structure: the design phase. A set of design criteria will be presented already categorized in 7 highover groups, and subsequently graded in terms of importance by differentiating in demands and wishes.

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6.1 Approach

Following the research phase, we have developed design criteria that we will use as the basis for our ideation, idea selection, prototyping, and validating phases. The criteria are based on the research that we have conducted, meaning it is derived from our explorations of the depths of Google Scholar, the interviews we did with Cocolab experts and Mat Duerden, and several experiments we designed to get a better understanding of the validity of the assumptions that we had made, discussed in the previous chapters.

First, we derived the design criteria themselves, after which we categorized the criteria into 7 logical groups for the sake of clarity and structure. After this, we had a second look at all the criteria, eliminated or combined the ones that seemed to be overlapping, and prioritized them in terms of importance, resulting in 37 criteria. We have used two levels of importance: the demands (what really needs to be there? - 28 in total), and the wishes (what would be nice to have? - 9 in total).

We have validated both the criteria, the groups, and their level of importance with Cocolab experts, in order to see where we might have missed something, where we included something that might not have been important, or where we assigned the wrong level of importance to a criteria. We're all humans, right? Only the most important design criterium per group will be presented here. The other 37 criteria can be found in appendix I.

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6.2 Criteria Groups

As mentioned, we have identified 7 design criteria groups, 37 design criteria, and the level of importance for each criteria (Demand or Wish). In this section, we will discuss each design criteria group and their associated design criteria in the subsequent sections.

Reflection and Visitor Understanding - This group focuses on the importance of understanding how visitors internalize and make sense of the experience. We look at reflection, understanding the visitors' perception of the meaningfulness of the experience, and their level of understanding of the main theme of the experience.

1. Highover Criteria 1 (Demand) - The assessment method should measure how well visitors comprehend the main theme and perceive the experience as meaningful, showing actionable insights into audience segmentation and value fulfillment.

Inclusivity and Participant Comfort - Here, we focus on ensuring that all participants feel comfortable, respected, and included. This is critical for collecting honest and diverse (read: from all necessary target audiences) feedback. We look at accommodating varied backgrounds, communication styles, and needs, that will make the assessment as a whole more welcoming and equitable, resulting in more realistic assessment of the experience.

2. Highover Criteria 2 (Demand) - The assessment method should create a comfortable, and non-pressured environment that promotes participants to provide open, honest, and unbiased feedback across the full spectrum of their perceptions.

Collective and Pre and Post-Experience Setting - The context in which we assess the experience influences the outcome of the assessment. This group focuses on the importance of the collective and pre and post-experience setting which the assessment will take place. This way, we aim to mimic the natural setting of the experience and avoid interference with the experience.

3. Highover Criteria 3 (Demand) - The assessment should occur in a pre and post-experience, preserving participants' original perceptions while minimizing collective influence. It should promote natural, pressure-free dialogue and ensure that individuals can reflect authentically within their original experience groups.

Data Quality and Usability - The foundation for purposeful assessment of experiences is high-quality and actionable data. This group focuses on ensuring that the assessment method produces data that is reliable, relevant, and easy to analyze and implement.

4. Highover Criteria 4 (Demand) - The assessment should provide manageable, comprehensible, quantitative, and actionable data. The analysis process should be intuitive and error-minimizing, with automated outputs. The data should support strategic decisions for Cocolab, including insights for future projects, audience performance, and areas of improvement.

Scalability and Integration - To be effective, the assessment method must fit seamlessly into Cocolab's design process (including already existing more qualitative oriented assessment efforts) and scale across various projects. This group emphasizes integration and adaptability, and the method's ability to grow alongside the company and its needs, as well as providing the quantitative bases needed for the already existing assessment methods.

5. Highover Criteria 5 (Demand) - The assessment method should be adaptable to different Cocolab projects, aligning across them while minimizing disruptions, and integrate smoothly into Cocolab's design and assessment processes as a whole.

Feasibility - This group addresses the practicalities of implementing the assessment method, such as time, resources, and operational constraints. Making sure the method is feasible is crucial, as it helps making it work in practice by being manageable and sustainable.

6. Highover Criteria 6 (Demand) - The assessment method should be efficient in resources, time, and manpower. Costs must be justified by the value generated.

Ethical Considerations - Ethics are at the core of any responsible assessment. This group ensures that participant data is handled respectfully, assessments are conducted transparently, and visitors' autonomy and privacy are safeguarded throughout the process.

7. Highover Criteria 7 (Demand) - The assessment method must comply with privacy laws present in Mexico, ensuring ethical handling of participant data.

DESIGN CRITERIA 06

CHAPTER
07

MEXICA

The Aztecs were a powerful Mesoamerican civilization known for their advanced society, monumental architecture, and rich cultural traditions. Centered in Tenochtitlán (modern-day Mexico City), they left a lasting legacy in Mexican culture through their food, art, mythology, and influence on contemporary Mexican identity.

PROBLEM DEFINITION

In this chapter we aim to converge all findings and insights from chapter 2 to 5 into a problem definition. We will start by giving a brief recap of the desk and field research conducted, and the design criteria in which this has been translated. We will then discuss the different underlying problems that we can distill from the research conducted. The underlying problems focus on the dimensions of assessment, the timing of assessment, and the sequence of assessment. To conclude this chapter, we will provide a design vision for the assessment method, incorporating the desk and field research and the design criteria.

7.1 Background

Throughout the Discover and Define phases of this project, we have encountered several insights that highlight the complexities surrounding gaining an understanding of the meaningfulness of Cocolab's experiences. In chapter 4 we introduced the framework of Meaning in Life by Martela and Steger (2016), as well as Duerden's framework on Sources of Meaning in Life (2025) that puts the previous framework in an experiential setting. Lastly, we connected Schwartz's Value Model (1992) to Duerden's framework, to include the individual into the experiential setting, and to prevent the usage of frameworks that are believed to be too abstract to be included into an assessment method, such as those by Martela and Steger and Duerden.

In chapter 4 as well, we discovered that the meaningfulness of an experiences is achieved by two criteria: the creation of insights within the visitor of an experience, by an experience, and the connection of these insights to the Sources of Meaning in Life (Duerden, 2025). We hypothesized that this connection can be promoted or stimulated, if the experience is aligned with the values of the individual, in the context of the experience, referred to in this report as the CPVP. We have introduced the SOLO Taxonomy as a way of understanding the extent to which insights have been generated in the first place. The sum of the CPVP fulfillment and the SOLO understanding, is considered the overall meaningfulness of the experience.

We have discussed the impact of reflection and concluded that it is not a natural process for most individuals and must be provoked actively. Timely reflection, within the 0 to 48-hour window post-experience, proved to yield more meaningful insights. The necessity of structuring and guiding reflection in a collective, post-experience setting was also noted, as well as the challenges in engaging participants during large-scale events, such as "COCO En Concierto". Additionally, experiments from "COCO En Concierto", "Leonora Carrington", and the "Meaningful Interviews" demonstrated that external factors—such as logistical challenges and facilitator involvement—can significantly influence the quality of post-experience assessments.

In this chapter we will synthesize all the key insights and construct a problem defintion. This problem definition will subsequently be translated into a design vision that forms, together with the design criteria presented earlier, the basis of the envisioned reflective assessment method.

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7.2 Assessment Dimensions

From the research phase, we have identified three key dimensions to assess the meaningfulness of an experience:

- Initial CPVP Understanding: To accurately evaluate CPVP fulfillment, it is essential first to understand the visitor's CPVP. While SOLO understanding focuses solely on the insights generated by the experience itself, CPVP fulfillment requires prior knowledge of the individual's CPVP to determine the connection made between the generated insights and the Sources of Meaning in Life (Duerden, 2025).
- CPVP Fulfillment: This measures how well the experience aligns with the CPVP of the individual. Understanding CPVP fulfillment helps evaluate the potential for insights generated during the experience to connect with the Sources of Meaning in Life, as discussed by Duerden (2025).
- SOLO Understanding: This dimension examines the extent to which the experience successfully generates relevant insights, and is aligned with the intended main theme of an experience. The SOLO Taxonomy provides a structured way to assess the depth and complexity of these insights, independent of the visitor's initial state.

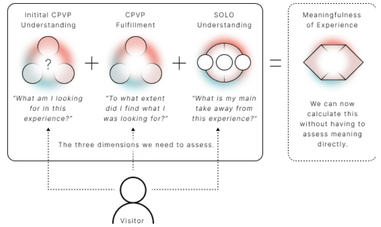

Image 7.1: The three to be assessed dimensions of assessment - CPVP, CPVP Fulfillment, SOLO Understanding ~ Source: image by myself

These three dimensions work in tandem: the CPVP and CPVP fulfillment inform us about the visitor's predispositions and to what extent these predispositions were respected by the experience, the SOLO Taxonomy evaluates to what extent insights were created by the experience, and the summation of the two determines how meaningful the experience is to the individual.

7.3 Timing of Assessment

As discussed in the previous section, we need to assess three elements within a visitor to be able to determine to what extent the experience was meaningful for this particular visitor. In this section, highover, we will discuss per dimension when the most optimal moment will be for the assessment of the dimension to take place.

7.3.1 Initial CPVP Understanding

This dimension is all about the expectations or wishes of the visitor, in the context of the experience. What is this person looking for, what is important? As discussed in chapter [x], the context of the experience also includes the collective in which the visitor visits the experience. This collective, and the emotional state of this collective, is only really known to the visitor, just before, during, and after the experience. In addition, we want to prevent the visitor getting influenced by the experience when confronting him or her with a question like: “What is important to you during this experience?”. This then limits the timeframe for determining the Initial CPVP Understanding to a -24H to 0H window before the experience, on site of the experience.

Image 7.2: Optimal time window for CPVP Assessment ~ Source: image by myself

7.3.2 CPVP Fulfillment

Here, we aim to understand to what extent the initially identified CPVP of an individual has been fulfilled, building on our understanding of the previous section. Here we will finding the answers to questions such as: “To what extent did you find what you were looking for in this experience?” and “How well did you find what was important to you?”. Obviously, this is a question that can only be answered after the experience, as a visitors first needs to have experienced the ‘experience’ before being able to assess it. In chapter [x] we discussed the optimal window for post-experience reflection and assessment. Here, we saw that a 0 to +48H timeframe after the experience is optimal, minimizing the decline of memory retention. In the first 24H after the experience, more immediate responses will surface, whereas in the +24H to +48H people are more prone to deeper reflection.

Image 7.3: Optimal time window for CPVP Fulfillment Assessment ~ Source: image by myself

7.3.3 SOLO Understanding

For the third and final dimension, we aim to understand what insights were generated during the experience, and where these insights fit on the layers of the SOLO Taxonomy. Here, we aim to answer questions such as: “What are your main take away(s) from this experience?” and “What did you learn from this experience?”. Just like with CPVP fulfillment, we can only start to understand the SOLO after the visitor has been through the experience, for the same reason as discussed in the previous section. Again, just with the CPVP fulfillment, for the sake of preventing the decline of memory retention, we should maintain a 0H to +48H timeframe after the experience during which we assess the SOLO Understanding.

Image 7.4: Optimal time window for SOLO Understanding Assessment ~ Source: image by myself

7.4 Overall Assessment Sequence

To ensure an optimal discussion about abstract topics such as meaningfulness - particularly the generated insights (SOLO Understanding) and CPVP Fulfillment - we need to carefully consider the sequence and framing of these topics. From our research on reflection and preflection (Chapter 4) and observations during the Leonora Carrington experiment (Chapter 5), we learned that the order in which abstract and concrete topics are introduced significantly impacts the quality of the discussion. Introducing less abstract topics first creates a foundation for gradually engaging with more complex concepts.

In this context, SOLO Understanding, which focuses on concrete takeaways and insights, is perceived as less abstract than CPVP Fulfillment, which deals with personal values and alignment. Therefore, SOLO Understanding should be addressed before CPVP Fulfillment in the assessment sequence.

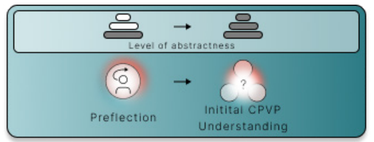

Image 7.5: Pre-Experience gradual Assessment Build-Up through the use of Preflection ~ Source: image by myself

Additionally, as discussed in chapter 4, to more effectively help visitors engage with these topics in the first place, it is essential to provoke both preflection (before the experience) and reflection (after the experience). Preflection allows visitors to mentally prepare for the experience and more effectively identify their expectations (the Initial CPVP Understanding), while reflection helps them reconnect with the moment of the experience and organize their thoughts, which in turn facilitates the assessment of CPVP Fulfillment and SOLO Understanding.

In addition to being a facilitator to Initial CPVP Understanding, CPVP Fulfillment, and SOLO Understanding, preflection and reflection can also be used to gradually introduce the right level of abstractness before the visitor ‘enters’ the dimensions for assessment. This means that we can use preflection and reflection to more gradually introduce visitors to the more abstract topics of SOLO and CPVP.

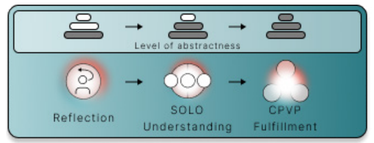

Image 7.6: Post-Experience gradual Assessment Build-Up through the use of Reflection ~ Source: image by myself

Following this logic, if we then include both preflection and reflection, the right order of assessment dimensions, within the right time windows, highover, we get the assessment timeline we see below.

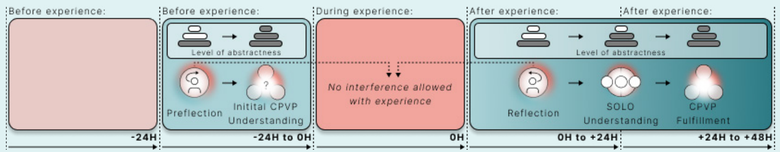

Image 7.7: Overall sequence of assessment dimensions and Pre- and Reflection~ Source: image by myself

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7.5 Redefined Problem Definition

By acknowledging that the preflection and the Initial CPVP Understanding should occur in a pre-experience setting, rather than post-experience, we must redefine the problem definition / design challenge / assignment we have stated earlier in the design brief (Appendix B). The redefined problem definition therefore becomes:

“How to facilitate collective preflection and the identification of a visitor’s CPVP in a pre-experience setting, and, subsequently, collective reflection, assessment of CPVP Fulfillment, and SOLO Understanding in a post-experience setting?”

7.6 Redefined Problem Definition

Based on the redefined problem definition, in combination with the research conducted in chapters 2 to 5, and the design criteria discussed in chapter 6, a design vision was composed to help inspire the develop and deliver phases of this project.

“Create a robust and adaptable assessment method that effectively facilitates collective preflection and the identification of a visitor’s CPVP in a pre-experience setting, and, subsequently, collective reflection, assessment of CPVP Fulfillment, and SOLO Understanding in a post-experience setting”

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Critical Insights

Three main Assessment Dimensions

- Initial CPVP Understanding: Determines what is important to a visitor before an experience.
- CPVP Fulfillment: Assesses whether the experience met the visitor’s expectations and values.
- SOLO Understanding: Evaluates the insights gained, their depth, and alignment with the intended main theme of an experience.

Timing of Assessment

- Initial CPVP Understanding: Must be assessed within a -24H to 0H window before the experience to avoid retrospective bias.
- CPVP Fulfillment & SOLO Understanding: Should be assessed 0H to +48H post-experience to maximize memory retention and depth of reflection.

Optimal Assessment Sequence

- The sequence of assessment should start with concrete aspects (SOLO Understanding) before moving to more abstract ones (CPVP Fulfillment).
- Preflection (before the experience) and Reflection (after the experience) serve as cognitive stepping stones, preparing visitors for the assessment process.

Other Critical Insights

- The initial problem framing needed refinement to explicitly incorporate preflection in a pre-experience setting rather than just post-experience reflection, and excludes the objective of ‘savouring’.
- The redefined challenge is now as follows: “How to facilitate collective preflection and the identification of a visitor’s CPVP in a pre-experience setting, and, subsequently, collective reflection, assessment of CPVP Fulfillment, and SOLO Understanding in a post-experience setting?”
- The design vision dictates that the assessment method should be robust and adaptable, offer a seamless integration of preflection and reflection, before assessing the CPVP, CPVP Fulfillment, and the SOLO Understanding.

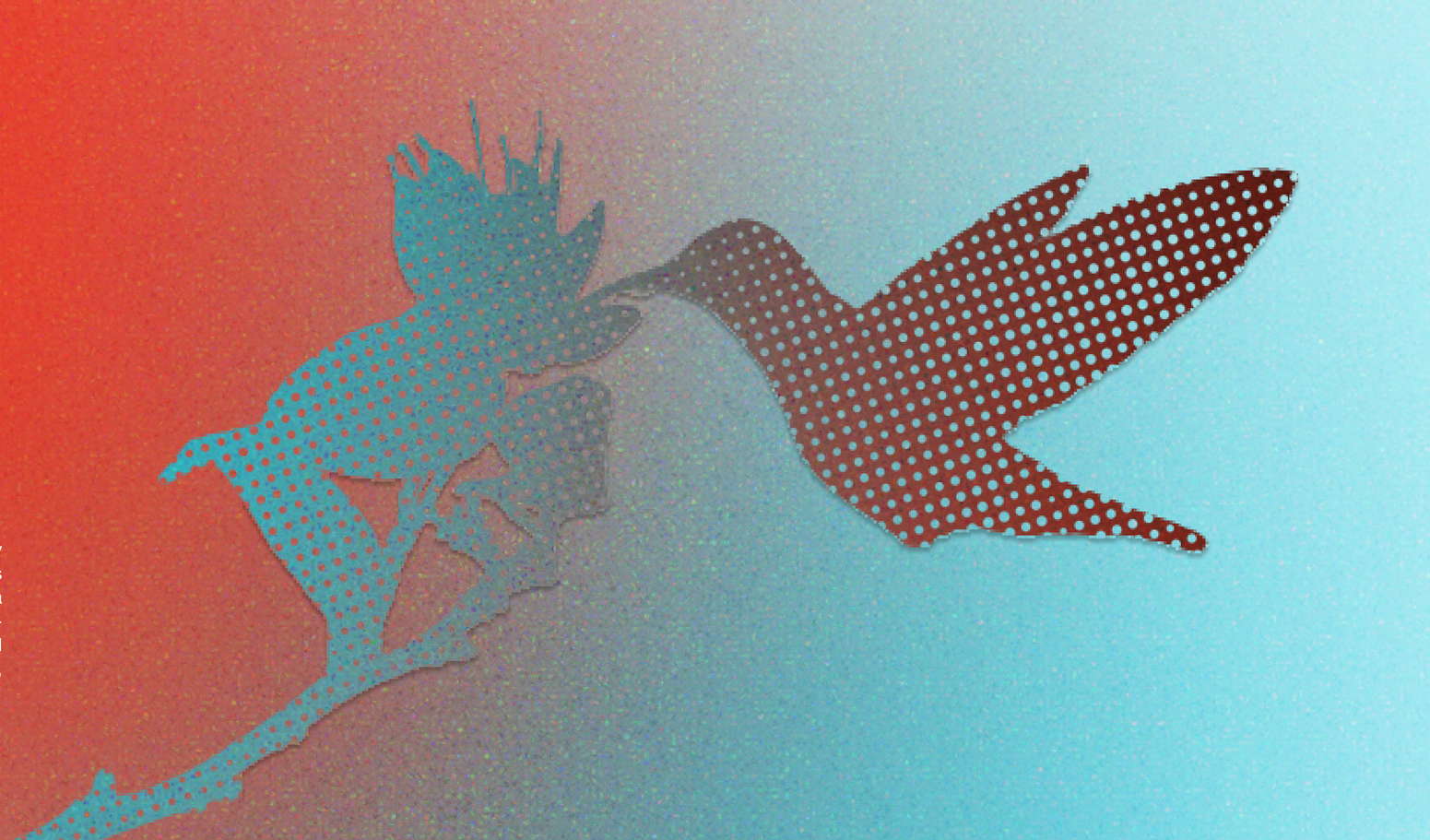
CHAPTER
08

HUITZILIN

In Aztec culture, the colibrí, was seen as a sacred symbol of the god Huitzilopochtli, the deity of war and the sun. The Aztecs believed that fallen warriors were reincarnated as colibrís, their vibrant colors representing the continuation of life and the warrior's spirit.

IDEATION

In this chapter, we explore the first step of the development phase: ideation. We begin by outlining a structured ideation process that starts with identifying the key building blocks necessary for creating an adaptable assessment method. Following this, we develop a timeline that captures the visitor journey and offers a playground for different compositions of sequences of these building blocks. Finally, we select and discuss three potential different compositions of these building blocks within the timeline to best create flexible, adaptable assessment systems that cater to Cocolab's diverse portfolio.



8.1 Ideation Approach

The ideation process began with a comprehensive review of the findings from desk and field research discussed in Chapters 2 to 5, the design criteria outlined in Chapter 6, and the problem definition and design vision formulated in Chapter 7. Using these foundations, an initial brainstorming session was conducted with the goal of generating so-called building blocks - components we believe essential (or, as we will see, in some cases somewhat optional) to purposeful assessment methods of the meaningfulness of experiences.

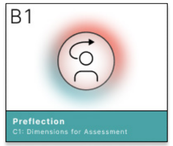
Subsequently, we develop a timeline that will serve as the playground on which we will explore different compositions of sequences of these building blocks. These compositions - or ideas - were evaluated against the design criteria and the proposed assessment sequence outlined in the previous chapter with the use of Harris profiles. Finally, based on the outcome of this evaluation process, we will select three concepts which we deem most suitable for the development into prototypes, as well as implementation. The latter will be discussed in detail in subsequent chapters.

8.2 Building Blocks

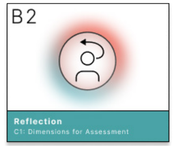
Before diving into ideation, it was crucial to identify the core building blocks necessary for the assessment method. Drawing from previous research, design criteria, and insights gathered, the building blocks presented below were identified, forming the foundation for our ideation. The building blocks are categorized into three overarching categories - Dimensions for Assessment (C1), Inclusion (C2), and Back-End (C3) - to provide structure. Each building block represents a fundamental step in the assessment process and is essential for designing a flexible, adaptable assessment method. In the following sections, these building blocks are briefly outlined. A more detailed exploration will follow in subsequent chapters, where we will discuss the selected concepts in greater depth. At this stage, we intentionally keep the building blocks flexible rather than overly detailed, allowing for adaptability to the diverse range of experiences Cocolab offers. Only after implementation will we gain deeper insights into how these elements should be refined within specific experiential contexts.

8.2.1 C1: Dimensions for Assessment

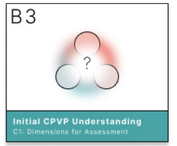
This category focuses on the aspects of the experience that need to be assessed to determine its meaningfulness.



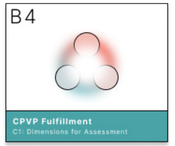
B1: Preflection - Activities or prompts that encourage visitors to anticipate or set expectations for the experience prior to engaging with it. It can also be used to gradually introduce the abstract topic of Initial CPVP Understanding.



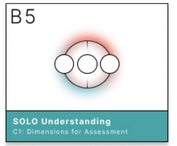
B2: Reflection - Activities or prompts that guide visitors to look back on the experience and articulate their thoughts, feelings, or insights. It can also be used to gradually introduce the abstract topics of CPVP Fulfillment and SOLO Understanding.



B3: Initial CPVP Understanding - Assessment of the visitor's initial CPVP within the context of the experience, before they actually engage with the experience.



B4: CPVP Fulfillment - Assessment of the extent to which the experience delivered on the CPVP of the visitor.

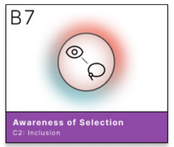


B5: SOLO Understanding - Assessment of the extent to which visitor's have grasped the main theme of an experience, expressed in the SOLO Taxonomy.

8.2.2 C2: Inclusion

For this category, we focus on building blocks that aim to make visitors aware of assessment and thus facilitates to include them into the assessment in the first place. The building blocks are:

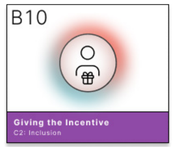
B6: Awareness of Assessment - Strategies to inform visitors about the existence and purpose of the assessment method.



B7: Awareness of Selection - Communication to visitors about why and how they were selected to participate in the assessment.

B8: Awareness of Incentive - Ensuring visitors understand the benefits or rewards associated with their participation in the assessment.

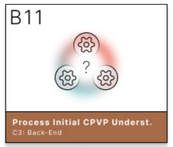
B9: Creation of Incentive - Designing an appropriate incentive to encourage participation in the assessment.



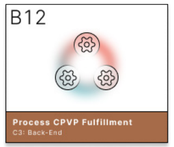
B10: Giving the Incentive - Delivering the incentive to the participants as a reward for their participation in the assessment of the experience.

8.2.3 C3: Back-End

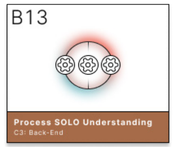
Here, we look at building blocks that process, store, and analyze data on the back-end of the assessment method. The building blocks are:



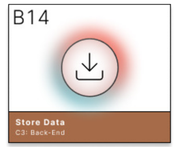
B11: Process Initial CPVP Understanding - Capturing and processing the visitor's initial CPVP before the experience, and linking it to the visitor's anonymized profile.



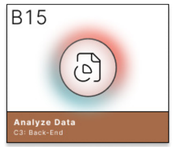
B12: Process CPVP Fulfillment - Collecting and processing data on whether and the extent to which the experience fulfilled the CPVP of the visitor.



B13: Process SOLO Understanding - Gathering and processing data related to the visitor's comprehension of the main theme of the experience.



B14: Store data - Ensuring that all data collected through the assessment process is securely stored and linked to the anonymized profile of the visitor for future analysis.



B15 Analyze data - Using analytical methods to derive insights from the collected data, enabling informed conclusions about the experience's meaningfulness.

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8.3 Identifying the Timeline

In this section, we will develop and discuss the timeline used for the purpose of composing sequences of building blocks, resulting in the generation of ideas. The development of this timeline was based on the interviews conducted with Cocolab experts at the beginning of this project. It is divided into seven distinct phases, with a primary focus on the central event: the experience itself. Each phase includes (optional) substeps that provide a granular view of the visitor journey before, during, and after the experience. Below, we provide an overview of each phase.

8.3.1 Phase 1: People decide to go

This phase encompasses the initial moments when individuals become aware of the experience through marketing efforts and begin considering attendance. The most critical point within this phase is when they decide to purchase tickets. After this decision, people typically resume their usual routines until the day of the experience approaches. For the purposes of our timeline, this phase is considered an off-site timeframe, occurring up to 48 hours before the experience.

8.3.2 Phase 2: Day of the Experience

The second phase focuses on the activities of visitors on the day of the experience. This includes waking up, preparing for the day, and traveling to the venue. The timeline for this phase begins 48 hours prior and narrows down to approximately 2 hours before the experience. This phase remains off-site but builds anticipation as visitors approach the event.

8.3.3 Phase 3: Arrival at the Experience

The third phase marks the visitors' arrival at the venue. It includes navigating security checks, ticket validation, and orienting themselves before entering the main experience. This phase represents the final pre-experience stage and occurs on-site, within a timeframe of 2 hours leading up to the experience's start (0 hours).

8.3.4 Phase 4: During the Experience

The fourth phase centers around the experience itself. Visitors, individually or collectively, participate in the event, progressing through it from beginning to end. This phase is unique because it explicitly excludes the use of building blocks to ensure that there is no interference with the visitor's perception of the experience. The duration of this phase corresponds directly to the length of the event and occurs entirely on-site.

8.3.5 Phase 5: Exiting the Experience

The fifth phase marks the transition from the main experience to the visitor's departure from the venue. This includes practical activities such as retrieving jackets, car keys, or other personal belongings. The phase concludes with visitors physically leaving the venue. This post-experience phase occurs on-site within a timeframe of 0 to +2 hours after the experience.

8.3.6 Phase 6: Continuing with life (Short term)

In the sixth phase, visitors begin to integrate back into their everyday routines. They transition from the experience to their next ordinary or extraordinary life moments. This phase takes place off-site and spans from +2 to +48 hours after the experience.

8.3.7 Phase 7: Continuing with life (Long term)

The seventh and final phase represents the long-term continuation of visitors' lives beyond the immediate aftermath of the experience. This phase accounts for how the experience may linger in memory or influence visitors over an extended period. It occurs off-site and begins from +48 hours onward, continuing indefinitely.

In short, the timeline of the experience captures the visitor's journey across seven phases. It begins with initial awareness and decision-making up to 48 hours before the event, followed by preparation and travel on the day of the experience. Visitors then arrive at the venue and orient themselves before the main event begins. The central phase is the experience itself, where visitors fully immerse without interference (meaning we cannot place any building blocks within Phase 4). Afterward, they transition out of the experience, leave the venue, and return to their routines in the short term (up to 48 hours) and long term, where the experience's impact may linger indefinitely.

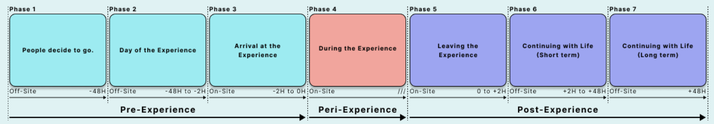

Image 8.1: Overall detailed timeline of an experience, with a focus on pre- and post-experience phases ~ Source: image by myself

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IDEATION 08

8.4 Composing Sequences of Building Blocks

Now that we have developed the crucial components for our ideation phase - the 15 building blocks and the timeline composed of 7 phases - we can begin composing sequences of these building blocks (i.e., generating ideas) to identify which configurations are most effective in assessing the meaningfulness of experiences. In total, 10 detailed and promising compositions were created, each designed to yield quantitative data on meaningfulness when implemented in experiences.

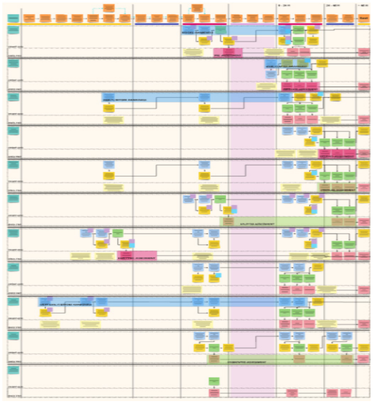

Image 8.2: Impression of the ideas composed in Miro with the Building Blocks onto the detailed timeline ~ Source: image by myself

These compositions were evaluated in close collaboration with Cocolab (M. Melgarejo, Cocolab Lead Strategist, personal communication, 2024) using Harris profiles developed based on the design criteria discussed in Chapter 6 (see Appendix J for the Harris profiles). Throughout this process, we noticed that several key patterns emerged, such as:

- Sequences of building blocks that most of the time followed the same order (e.g. creating awareness of assessment (B6 to B8) always precedes the actual assessment (B1 to B5)).
- Ideas that had sequences of building blocks that were relatively tightly packed together onto the timeline (meaning a higher concentration of building blocks would be implemented within the same phase), whereas some compositions of sequences were more spread out over the timeline (meaning that the assessment method would be present within more phases, yet in fewer quantities). Having used the Harris profiles for evaluation and selection, we observed that most compositions were excluded for various reasons. The most significant factors were that some ideas had sequences that were too dispersed across the timeline, thus requiring multiple touchpoints with participants. This most likely not only would have introduced unnecessary logistical challenges but also increased the likelihood of high dropout rates, ultimately reducing the quantity of usable data. Additionally, a higher number of touchpoints would have demanded greater effort from participants, potentially making the assessment process feel more burdensome and less comfortable compared to methods with fewer, more concentrated interactions.

Rather than detailing all ten compositions, which are largely built upon similar principles with slight variations, in the next chapter, we will focus on presenting the outcome of the evaluation process and discussing the three selected concepts in greater detail. We will outline the rationale behind these selections or concepts and how they align with the design criteria.

Critical Insights

- We have implemented a structured and systemic ideation approach in which we focused on the subcomponents of an effective assessment method - the 15 building blocks - and the development of detailed timeline segmented in 7 distinct phases on which we could tryout different compositions of building blocks.
- This way, we can guarantee adaptability, as the method can be customized for different experiences (read: Building Blocks can be tailored to a specific experience) while maintaining consistency in evaluation (read: The backbone of the assessment method - the highover sequence of building blocks - should always be maintained, regardless of the specific context of the experience.)
- Harris profiles based on the design criteria have been used for the evaluation of the composed ideas, resulting in the selection of three main concepts that will be discussed in greater detail in the next chapter.
- Most ideas focused on segmenting the assessment across the timespan, resulting in a logistacilly challenging and undesirable assessment method for the participants, and were thus excluded.

CHAPTER
09

ESCORPIÓN

The scorpion, often found in Mexico's desert regions, is a symbol of both danger and resilience in the country's folklore. Known for its powerful sting, the scorpion features in vibrant Mexican art and jewelry, reflecting the nation's rich biodiversity and deep connection to the natural world.

CONCEPTUALIZATION

The aim of this chapter is to provide the rationale behind the three selected concepts resulting from the ideation phase, by explaining the three concepts in detail and show their alignment with the design criteria. We will present the three concepts derived from the compositions mapped on the timeline discussed in the previous chapter. Two out of three concepts will then be implemented and tested in a real-life experience, leading to the final concept selection.

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9.1 Concepts Overview

In this chapter, we will discuss the concepts we have developed. Each concept is centered around assessing the appropriate dimensions - Initial CPVP Understanding, CPVP Fulfillment, and SOLO Understanding - at the most suitable moments along the previously outlined timeline. These concepts are composed using the building blocks introduced in the previous chapter.

At this stage, we will not delve into the details of the building blocks, as they will be fully elaborated in the chapter covering the final design. The three concepts we will present differ primarily in their approach to the final phase of assessment, focusing on the evaluation of CPVP Fulfillment and SOLO Understanding. We will discuss the so-called 'Segmented Assessment', 'Extended Assessment', and 'Sandwich Assessment'.

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9.2 Segmented Assessment

The first promising concept derived from composing the building blocks into different configurations is called Segmented Assessment. The focus of this concept is to minimize the amount of time visitors spend at each touchpoint of the assessment method by segmenting the three dimensions for assessment across three separate moments in the detailed timeline.

The assessment of Initial CPVP Understanding occurs during Phase 3 (Arrival at the Experience), as discussed in Chapter 7ww. Visitors are asked to engage in preflection and identify their CPVP in the context of the experience, just before entering the main event. This allows them to anticipate and set their expectations without interrupting the experience. Following the experience, visitors are asked to reflect on the event and articulate their SOLO Understanding during Phase 5 (Exiting the Experience). This reflection and assessment of their SOLO Understanding occurs immediately after the experience, while the event is still fresh in their memory.

Finally, the dimension of CPVP Fulfillment is assessed during Phase 6 (Continuing with Life - Short Term), which spans from +2 to +48 hours after the experience. By assessing this dimension in the short-term aftermath, visitors have enough time to internalize the experience and evaluate whether it met their CPVP. Post-Experience, this approach respects the order of abstractness, starting with the least abstract dimension (SOLO Understanding) and progressing to the most abstract (CPVP Fulfillment). While this segmentation minimizes the time commitment at each touchpoint, it increases the total number of touchpoints overall. This creates more opportunities for visitors to disengage from the assessment process before its completion. Additionally, the logistics of coordinating multiple interactions across the timeline may pose challenges, as well as an increase of the overall time spent in the assessment, as participants will have to initiate and complete their assessment three times (Phases 3, 5, and 6).

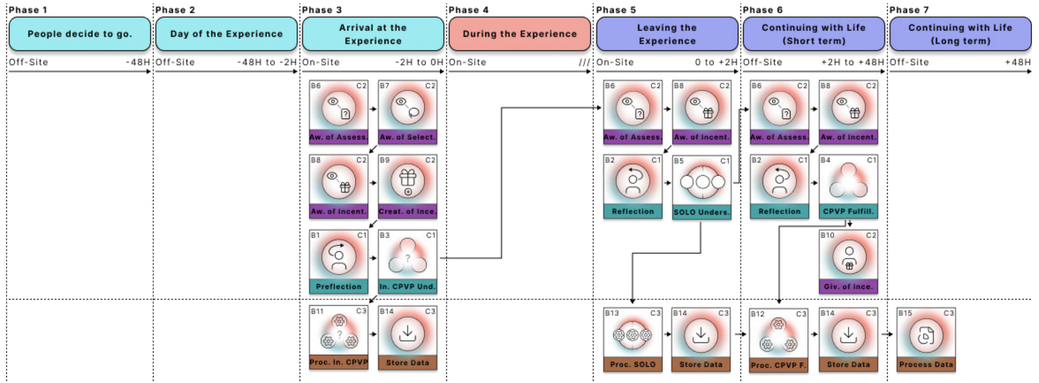

Image 9.1: Assessment sequence of the Segmented Assessment ~ Source: image by myself

9.2 Extended Assessment

The second promising concept, Extended Assessment, focuses on consolidating touchpoints to reduce the total number of interactions required from visitors. This approach assesses the dimensions of Initial CPVP Understanding during Phase 3 (Arrival at the Experience) and both SOLO Understanding and CPVP Fulfillment during Phase 6 (Continuing with Life - Short Term).

The first touchpoint, during Phase 3, asks visitors to engage in preflection and articulate their Initial CPVP Understanding. This step ensures that visitors set clear expectations for the experience without disrupting the flow of their arrival or pre-experience activities.

The second and final assessment touchpoint occurs in Phase 6, where visitors are asked to reflect on their experience in depth. By combining the assessment of SOLO Understanding and CPVP Fulfillment at this stage, visitors are given sufficient time (+2 to +48 hours) to process their thoughts and evaluate whether the experience met their expectations and delivered on its main theme.

This concept reduces the number of touchpoints to two, making the assessment process more streamlined and less intrusive. However, combining two dimensions at the final touchpoint will increase the total amount of time spent during the last assessment touchpoint. Also, by postponing the final touchpoint to the post-experience +2 to +48H timeframe, we increase the likelihood participants will drop out as they will not complete the assessment on-site, but off-site.

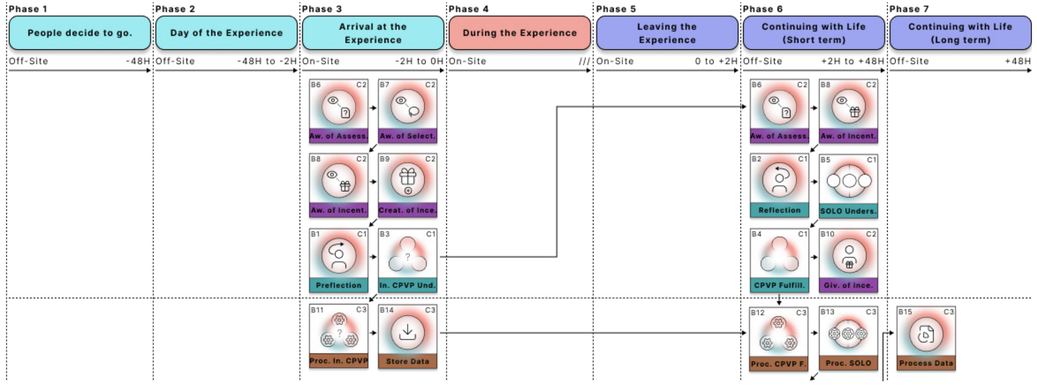

Image 9.2: Assessment sequence of the Extended Assessment ~ Source: image by myself

9.3 Sandwich Assessment

The third concept, Sandwich Assessment, is designed to cluster the touchpoints tightly around the experience itself (hence the name: Sandwich). This approach assesses the dimensions of Initial CPVP Understanding during Phase 3 (Arrival at the Experience) and both SOLO Understanding and CPVP Fulfillment during Phase 5 (Exiting the Experience).

The first touchpoint in Phase 3 involves preflection, where visitors articulate their Initial CPVP Understanding prior to entering the experience. This ensures that expectations are captured in a timely and relevant manner, in line with chapter 7.

This concept sequence distinguishes itself from the other two concepts in the timing of the building blocks only after the experience, during Phase 5. The second touchpoint occurs immediately after the experience, in Phase 5. Visitors are asked to reflect on the event to assess respectively SOLO Understanding and CPVP Fulfillment. By clustering these dimensions together immediately of the experience, the assessment leverages the freshness of visitors' impressions and minimizes delays in gathering insights.

This approach benefits from a compact timeline, limiting the assessment to two closely spaced on-site touchpoints and avoiding the need for long-term follow-ups and potentially increased drop-outs rates. However, this method risks compromising the depth of reflection required for CPVP Fulfillment, as visitors may not have had enough time to internalize the experience fully, as post-experience assessment will take place in a 0H to +2H timeframe immediately following the experience.

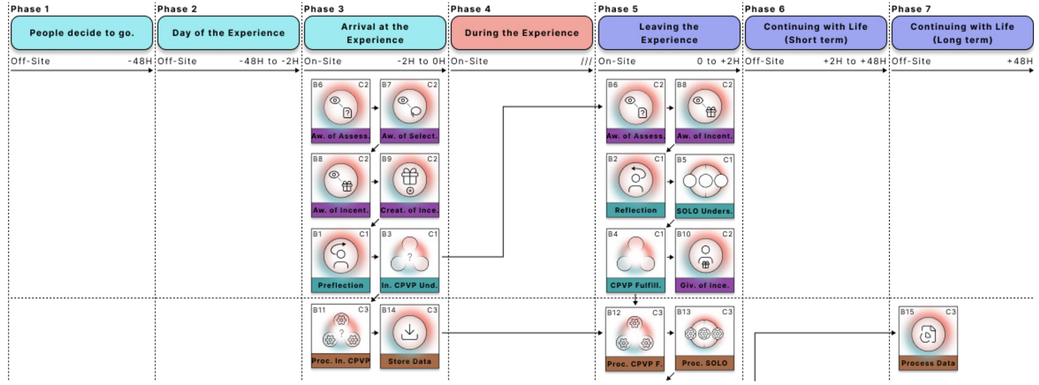

Image 9.3: Assessment sequence of the Sandwich Assessment ~ Source: image by myself

Critical Insights

- We have discussed the three most promising concept resulting from the ideation phase: Segmented Assessment, Extended Assessment, and Sandwich Assessment.

Segmented Assessment

- Minimizes time spent per touchpoint, reducing fatigue at each step by introducing three touchpoints.
- Increases the total number of touchpoints, which may lead to dropouts.
- Higher logistical complexity due to multiple interactions over an extended timeline.

Extended Assessment

- Reduces the number of touchpoints, making the assessment more streamlined and user-friendly, resulting in less logistical challenges and lower dropout rates.
- Assessment during the +2H to +48H timeframe allows for deeper reflection on CPVP Fulfillment.
- The +2H to +48H timeframe increases the risk of higher dropouts since the final assessment happens off-site.

Sandwich Assessment

- Reduces the number of touchpoints, making the assessment more streamlined and user-friendly, resulting in less logistical challenges and lower dropout rates.
- Eliminates the need for long-term follow-ups, minimizing participant dropout rates.
- Post-experience assessment potentially occurs too soon, potentially limiting the depth of reflection and subsequent assessment.

CHAPTER
10

ÁGUILA REAL

The golden eagle, Mexico's national symbol, represents strength and freedom. Featured prominently on the Mexican flag, it holds deep cultural significance, rooted in Aztec mythology as the guide for the founding of Tenochtitlán.

VALIDATIVE PROTOTYPING

In this chapter, discuss the development and implementation of two prototypes of the assessment method that are based on the final selection of concepts discussed in the previous chapter: Segmented Assessment, Extended Assessment, and Sandwich Assessment. First, we will briefly discuss the scope of the initial set of prototypes. We will then discuss the development of the two prototypes, that will be tailored to the context of a specific experience for initial implementation. We will discuss what we expect the implementation of the prototypes to make us understand about the prototypes, after which we will discuss the implementation of the two prototypes. Based on the first implementation, we propose the selection of one of the prototypes, of which an iterated version will be implemented and discussed in the final part of chapter.

10.1 Scope of Prototyping

The prototyping and implementation phase serves as an initial exploration of the practical application of the three assessment methods. It will allow for early stage validation of their feasibility, effectiveness, and visitor engagement. Since we work with adaptable building blocks, the prototypes will be tailored to the specific context of the experience in which we implement - LUM.

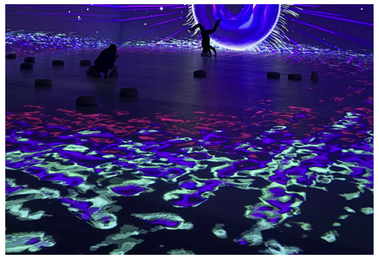

Image 10.1: Impression of LUM, 2024 ~ Source: image by myself

The focus will be on understanding visitor interaction with the assessment process, identifying potential friction points, refining the approach before broader implementation, and selecting the sequence and timing of building blocks that works best. The goal is not to finalize the assessment method, nor to assess LUM, but to gather insights that will inform iterative improvements and the final concept selection.

Before diving into the development of the prototypes, it is important to first understand the experience in which they will be implemented - LUM. LUM is an immersive experience designed by Josue Ibañez, aimed at guiding visitors through a meditative journey using a series of multimedia-infused, sensory-rich environments. Hosted at InSpace in Mexico City, LUM takes visitors on a fantastical path of self-discovery, exploring different emotional and mental states through seven themed rooms: Respiración, Sendero, Niebla, Éther, Ritual, Eclipse, and Cosmic Flow. Each room invites visitors to move freely and spend as much time as they need, allowing them to engage deeply with the space and their own introspection.

The central theme of LUM can be summarized as: “To be connected with myself or with the moment allows me to be a better person” (J. Ibañez (Immersive Experience Designer and creator of LUM), personal communication, 2024). Rather than conveying this idea through explicit narration, the experience is designed to make visitors feel this connection through immersion, movement, and interaction with the audiovisual elements.

On average, visitors complete the journey in about one hour. Since its opening approximately five months ago, LUM has welcomed between 30 to 50 visitors per day. Visitors are being received at the venue at a reception, after which two hostesses scan their tickets, explain the experience, and grant them access to the first room. The take-in process takes approximately 5 minutes.

10.2 Development of Prototypes

In the previous chapter, we identified three promising assessment concepts: Extended Assessment, Segmented Assessment, and Sandwich Assessment. These concepts share key elements, which allow us to streamline our prototyping approach.

- Both Extended Assessment and Segmented Assessment include an identical off-site assessment touchpoint.
- Both Segmented Assessment and Sandwich Assessment include an identical on-site assessment touchpoint.

Because of these overlaps, we only have to test Extended Assessment and Sandwich Assessment to gather insights relevant to Segmented Assessment as well - eliminating the need to prototype it separately, which in turn will save us time and effort.

For reasons mentioned above, the two prototypes will thus be designed based on a selection of the three conceptual approaches. Each prototype will integrate the appropriate assessment dimensions - Initial CPVP Understanding, SOLO Understanding, and CPVP Fulfillment - at strategically chosen touchpoints that resonate with the building block sequences adhering to the Extended Assessment and the Sandwich Assessment, whilst maintaining feasibility in the context of LUM. In short, the development process includes:

- Selection of tangible and contextualized assessment tools.
- Designing visitor interaction flows to minimize disruption while ensuring data collection accuracy.

It is important to note that all touchpoints with the visitors were designed in Spanish, as we expected most visitors of LUM to be Spanish-speaking Mexicans. For the sake of clarity of this report, we will explain the touchpoints briefly in their English translations. For a more elaborate explanation and the original Spanish forms, we refer to appendix K.

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10.3 Assessment Tools

This section briefly discusses the assessment tools implemented, including the questions asked and the (digital) tools used.

10.3.1 Extended Assessment

For the Extended Assessment, we combined analogue (paper) forms for the pre-experience Preflection and the assessment of the Initial CPVP Understanding. Preflection was initiated by a set of increasingly abstract questions, prompting participants to reflect and discuss with their group:

- What will you see during today’s experience?
- What will you do during today’s experience?
- What do you hope to feel during the experience?

Once preflection was completed, participants assessed their Initial CPVP Understanding on paper by answering:

- What do you want? What is most important to you during this experience? Please select the option that best matches your expectations. Use a pen (or pencil) to circle your choice. I want to...

Participants were then shown a set of 12 different options, grouped in sets of three, each corresponding to one of the four value dimensions from Schwartz (discussed in Chapter [x]). As mentioned in Chapter [x] as well, the values were framed in the context of the experience. For instance:

Openness to Change (Value Dimension)

- ... awaken my imagination and creativity.
- ... experience something new and exciting.
- ... explore and be inspired.

Participants submitted their assessment forms before entering the experience. Afterward, they were informed that, one day later, they would receive an email with a link to the final part of the assessment: Reflection, SOLO Understanding, and CPVP Fulfillment. One day after their visit, participants received the link to a Google Form. In this final assessment, Reflection mirrored the structure of the preflection, but in retrospect:

- What did you see during the experience?
- What did you do during the experience?
- What did you feel during the experience?

After the completion of the Reflection, the SOLO Understanding was obtained by asking the question:

- What did you learn? Select 3 words or phrases that best capture what you learned or gained from this experience.

They were then shown a set of 15 words or short phrases grouped by the levels of the SOLO Taxonomy, with the highest level reflecting the experience’s main theme: “To be connected with myself or with the moment allows me to be a better person.” Here’s an example from the Prestructural Understanding layer:

Prestructral Understanding

- “I saw lights and music.”
- “The experience was abstract.”
- “I did not understand the meaning.”

After assessing the SOLO Understanding, the CPVP Fulfillment was assessed by the use of a Likert Scale. On a scale from one to five, participants were asked to grade to what extent they had found the thing they believed was most important to them in the pre-experience setting. We did so, by asking them the following question:

Before the experience, you said this was the most important to you. Did you find what mattered most to you? Please select that option.

They were then shown a set of five options, aligned with the Likert Scale:

- Not at all!
- A little
- Somewhat
- Mostly
- Completely!

Upon completing the assessment, they would receive their incentive: a Starbucks e-giftcard of $100 MXN or an extra free ticket to LUM for a future visit.

10.3.2 Sandwich Assessment

As opposed to the Extended Assessment, for the Sandwich Assessment, participants were invited to complete their entire (both pre and post-experience) assessment on site by the use of one assessment form. On this form, exactly the same questions were asked as discussed in the previous section. Likewise, the preflection and reflection session were similarly structured.

10.4 Visitor Interaction

Visitor interaction was facilitated through the pre-informed InSpace personnel present on-site. Upon arrival at the venue, participants were warmly greeted by the hostesses, who guided them through the first part of the experience: the checking of their tickets and an explanation of the experience. As part of the process, visitors were invited to complete the short pre-experience survey as discussed in the previous section.

Before entering the immersive experience, participants were also informed that they would be asked to complete a post-experience survey - either on-site or off-site, depending on their assessment method. They were notified that completing this follow-up survey was required in order to receive their chosen incentive (the Starbucks e-gift card or an extra free ticket to LUM for a future visit). This notification helped ensure that participants were aware of the full process from start to finish.

Since the majority of visitors were Spanish-speaking Mexicans, all communication between the hostesses and participants took place in Spanish to ensure clarity and comfort. The surveys were carefully designed to be in Spanish, short, straightforward, and easily understandable. This was done to minimize confusion and ensure that visitors could complete the surveys with minimal disruption or interference to the immersive experience they were about to enjoy.

10.5 Aim of Initial Implementation

The aim of the initial implementation of both prototypes at LUM was to preliminary test and observe the participants interactions with the three methods (yet two prototypes, as explained earlier), as well as to collect feedback, enough to arrive at final conclusion for the selection of a method suitable for future implementation and further development.

10.6 Results, Analysis and Evaluation

Over the course of two on-site testing days, we collected data from a total of 68 participants. The Extended Assessment included 37 participants, while the Sandwich Assessment included 31 participants.

Our on-site participation rate was 100%, as every visitor approached by our hostesses agreed to participate in the assessment. However, for the Extended Assessment, only four participants (11%) completed the full assessment - both the pre-experience survey on-site and the post-experience survey off-site. This means that 89% of participants dropped out after completing only the initial on-site portion. In contrast, for the Sandwich Assessment, we achieved a 0% drop-out rate, as all 31 participants completed both the pre- and post-experience surveys on-site before leaving the venue.

A more detailed discussion of the assessment results of LUM is presented in Appendix L, but in summary:

- The overall perceived meaningfulness of the experience was rated 4.04/5, indicating a generally positive reception.
- The CPVP Fulfillment dimension received the highest rating at 4.57/5, suggesting that participants felt their pre-experience expectations were well met.
- The SOLO Understanding dimension resulted in a steady 3.57/5.

Notably, the SOLO Understanding score was unexpectedly high, bordering on relational understanding within the SOLO Taxonomy. This was surprising, given that the experience itself was relatively abstract and was not originally designed to explicitly convey a structured main message.

To better understand this outcome, we consulted with J. Ibañez (Creator of LUM) and M. Duerden. During these discussions, it was observed that the wording and structure of the assessment question for SOLO Understanding may have influenced participant responses, potentially guiding them toward higher levels of cognitive processing than naturally expected within this specific experience. This effect was attributed to Social Response Bias. A key issue was the presentation of answer choices:

- The response options were arranged in order of increasing complexity (from left to right), corresponding to progressively higher levels of the SOLO Taxonomy.
- As the levels increased, the wording became more complex, with longer sentences and more sophisticated structures.

This visual and linguistic hierarchy may have unintentionally encouraged participants to select responses that appeared more advanced, rather than reflecting their actual level of understanding. To mitigate Social Response Bias in future assessments, adjustments should be made to ensure that answer options are:

- Equal in length and complexity to avoid differences in sentence structure that might signal a “better” or “more intelligent” response.
- Presented in a randomized order rather than a structured progression, preventing any subconscious influence on participant selection.

These refinements will help ensure that future assessments more accurately reflect participants’ actual cognitive processing and understanding of the experience.

Another key limitation in the phrasing of the SOLO Understanding question was that it only allowed us to assess the complexity of a participant’s understanding (as categorized by the SOLO Taxonomy) but not whether their understanding was actually aligned with the main theme of the experience. This restriction meant that participants could provide responses that demonstrated high cognitive complexity within the SOLO framework, yet these responses might not necessarily reflect the intended theme or could even contradict it.

For future iterations, we need to assess not only the level of understanding but also the alignment of an individual’s interpretation with the main theme. To achieve this, we will introduce an open-ended response option, in addition to the existing structured questions, allowing participants to articulate how their understanding aligns (or does not align) with the intended theme.

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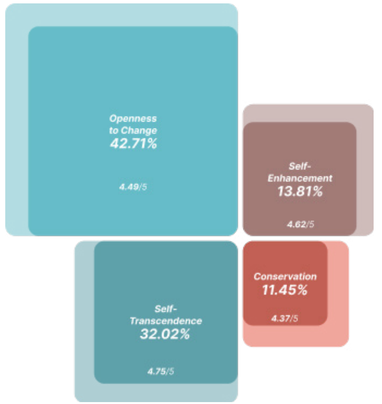

Image 10.2: Example of data output from LUM: CPVP (Fulfillment) showing clear convergence towards Openness to Change and significant varying fulfillment scores of the CPVPs – Source: image by myself

Finally, we observed a convergence in the target audience’s value profile, aligning with the findings from the experiment discussed in chapter [x]. Specifically, participants showed a clear preference for one CPVP: Openness to Change. In contrast to their daily lives, where CPVP preferences were more evenly distributed, participants in the context of LUM demonstrated a strong inclination towards Openness to Change (42.71%). This suggests that the immersive nature of the experience may have amplified or has drawn target audiences with this particular contextual value dimension. Additionally, we observed significant variations in the fulfillment levels of different CPVPs. This provides actionable insights, as we now have a segmented target audience based on their CPVP preferences and fulfillment levels. These findings highlight which CPVPs may require more attention in future experience designs and which are already well-served.

10.7 Conclusion and Discussion

Overall, we conclude that the Extended Assessment and Segmented Assessment are unsuitable for future implementation or further development. The extremely high drop-out rate observed - despite the offered incentives - suggests that no feasible or affordable incentive would be sufficient to significantly reduce drop-out rates. As a result, we were unable to observe any meaningful differences in the perceived meaningfulness of the experience.

This was particularly disappointing, as we had hypothesized that postponing the deeper reflection moments by one day (as done in the Extended and Segmented Assessments) might lead to a deeper understanding of the experience and a higher perceived meaningfulness. However, due to the low post-experience participation, we could not validate this assumption.

On the other hand, the Sandwich Assessment proved highly effective, with a 0% drop-out rate and a consistent flow of actionable data. Since participants completed both the pre-experience and post-experience assessment on-site, engagement levels remained at a maximum, and no additional follow-ups were required.

For these reasons, we have decided to discontinue the development of the Extended and Segmented Assessments and instead focus on refining and improving the Sandwich Assessment for future implementations based on the insights gathered during this initial round of implementation. This approach ensures higher participation, more reliable data collection, and a more practical, scalable assessment method moving forward.

10.8 Final Implementation

Following the insights gained from the initial implementation at LUM, the second and final implementation of our assessment method focused on the refinement and implementation of only the Sandwich Assessment, for reasons discussed in the previous section. The core structure (the sequence and timing of the building blocks) remained consistent with the previous implementation of the Sandwich Assessment; however, this iteration was conducted entirely digitally. Instead of the previously used paper-based surveys, a set of QR codes was strategically placed on-site, directing participants to online pre- and post-experience surveys via Google Forms. This shift streamlined the data collection process, ensuring greater accessibility and ease of participation. Both the Google Forms and the QR-codes used during this final implementation can be found in appendix M.

One of the primary refinements targeted the mitigation of Social Response Bias, particularly concerning the SOLO Understanding framework. Adjustments made to the phrasing and structure of questions, as outlined in the previous section, contributed to a more accurate reflection of individual cognitive processing of the main theme of the experience. As a result, participants demonstrated more independent and realistic responses, suggesting a reduction in the tendency to conform to perceived social expectations. We did this by:

- Ensuring the length and complexity of each answer was similar to avoid differences in sentence structure that might signal a “better” or “more intelligent” response.
- Presenting the options in a randomized order rather than a structured and increasingly complex progression, preventing any subconscious influence on participant selection.
- Providing an optional open-ended response option, in addition to the existing structured question, allowing participants to articulate how their understanding aligns (or does not align) with the intended theme.

The new phrasing of the SOLO Understanding question was implemented as follows:

- Question 1: What did you learn? Select the one word or phrase that best captures what you learned or understood from this experience. If your understanding does not align with one of the five presented answers, please skip this question and continue to the next question.
- Question 2: Please only answer this question if you believe your understanding does not align with one of the five options presented in the previous question. Please, describe in your own words or sentences your main take away from this experience.

Beyond addressing the Social Response Bias and providing more space for assessing the alignment with the main theme of the experience, the on-site digital approach aimed to enhance response rates (as compared to the digital Extended Assessment approach) and minimize logistical challenges associated with paper distribution, collection, and data analysis.

Image 10.3: Impression of final implementation at LUM with the use of QR-codes ~ Source: image by myself

10.9 Results, Analysis and Evaluation

During the on-site testing day of the iterated Sandwich Assessment, we collected data from a total of 33 participants. Our on-site participation rate was close to 100%, though some elderly visitors approached by our hostesses were unable to participate or complete the fully digital assessment. The pre-experience survey, which focused on preflection and Initial CPVP Understanding, received 33 responses. The post-experience survey, which measured reflection, SOLO Understanding, and CPVP Fulfillment, had 28 responses. This means that 5 of the 33 initially included participants dropped out, resulting in a 15% drop-out rate.

While this drop-out rate is significantly lower than the 89% observed in the partially digital Extended Assessment from the first implementation, it is higher than the 0% drop-out rate recorded in the initial Sandwich Assessment. We attribute this slight increase to the transition to a fully digital format, which may have discouraged some elderly participants from completing the assessment. Additionally, on this particular testing day, larger groups of visitors entered and exited the venue simultaneously, making it more challenging for our hostesses to notify and engage each participant for the post-experience survey.

- The overall perceived meaningfulness of the experience was rated 3.30/5, indicating a generally positive reception, yet 18.3% lower than the meaningfulness perceived during the initial implementation.
- The CPVP Fulfillment dimension received the highest rating at 4.07/5, suggesting that participants felt their pre-experience expectations were well met. This score is 10.9% lower than in the previous attempt.
- The SOLO Understanding dimension resulted in a steady 2.57/5. This score is significantly lower than the SOLO Understanding obtained in the previous attempt - a drop of 29.2%.

Here, it is important to note that both assessed dimensions showed a decline in scores, with the most significant drop observed in SOLO Understanding. We attribute this to the revised set of questions designed to mitigate Social Response Bias - an objective that - we believe - was successfully achieved.

Aside from this, our data analysis revealed no other significant changes. For instance, the overall CPVP distribution and fulfillment remained consistent with the outcomes presented in the previous section.

10.10 Conclusion and Discussion

Based on the results of our final implementation, we conclude that the Sandwich Assessment is the most suitable method for assessing post-experience reflections in an on-site setting. The transition to a fully digital format streamlined data collection, reduced logistical complexities, and eased the data processing and analysis process. Also, the adjustments to the SOLO Understanding questions successfully mitigated Social Response Bias, in turn yielding more independent and authentic participant responses.

However, despite these improvements, the digital approach introduced new challenges. The 15% drop-out rate - while significantly lower than the 89% observed in the Extended Assessment - was higher than the 0% recorded in the initial paper-based Sandwich Assessment. This suggests that while digitalization enhances efficiency, it may inadvertently exclude certain visitor demographics, particularly elderly participants. Additionally, larger visitor groups presented a logistical challenge for ensuring full participation in the post-experience survey.

The observed decrease in SOLO Understanding scores highlights the trade-off between reducing response bias and maintaining higher self-reported understanding, reflective of the participants' actual understanding.

Given these findings, we recommend further refining the digital Sandwich Assessment to optimize participation while maintaining data integrity. Due to our adaptive building block approach, possible improvements include offering a hybrid approach with both digital and paper-based options to accommodate diverse visitor needs and refining engagement strategies to encourage post-experience survey completion in group settings. In practice, this means that experience with a target audience that mostly composed of elderly people could perhaps fully switch to more analogue assessment approach, whereas experiences with a more diverse target audience could maintain a more hybrid approach.

In conclusion, the fully on-site Sandwich Assessment remains an effective method for assessing immersive multimedia experiences. While transitioning to a fully digital format improved efficiency and reduced logistical challenges, it also introduced new hurdles, especially for elderly participants and larger groups. The slight increase in drop-out rates and the steep decline in SOLO Understanding scores highlight the balance between reducing response bias and maintaining participant self-reports. Future refinements, such as offering hybrid approaches and refining engagement strategies, can optimize participation. Ultimately, the success of the Sandwich Assessment depends on tailoring the approach to the specific demographics and context of the experience.

Critical Insights

- The development and initial implementation of the two prototypes, Extended Assessment and Sandwich Assessment, aimed to test and refine assessment methods based on the context of the LUM experience.
- The initial implementation phase revealed a significant difference in engagement levels between the two methods. The Sandwich Assessment achieved a 0% drop-out rate, while the Extended Assessment saw a high drop-out rate (89%).
- Insights gathered during the initial implementation from the SOLO Understanding dimension showed an unexpectedly high level of cognitive processing in responses. This showed the need to address potential biases in assessment wording and structure to ensure more accurate representation of participants' actual cognitive processing.
- The second implementation at LUM focused only on the evaluation of the finally selected method - Sandwich Assessment.
- The shift from paper-based to digital assessments streamlined data collection and made participation easier for most, but posed challenges for elderly participants less familiar with digital tools, showing the need for more inclusive options.
- The refinements aimed at reducing social response bias - particularly through adjustments to question phrasing and randomizing answer options of the SOLO Understanding questions - seem to have worked. The data indicates more independent and realistic responses from participants, suggesting that these adjustments were successful in mitigating biases linked to social desirability. Additionally, participants were given more space to also explain their SOLO Understanding in their own words, allowing us, in turn, to observe the extent to which participants' understandings were aligned with the main theme of the experience.
- Finally, we can conclude that the newly iterated Sandwich Assessment has proven to be an effective way to assess the meaningfulness of the experience, when tailored sufficiently to the context of the experience.

CHAPTER
11

PIÑATA

A piñata is a colorful, treat-filled figure central to Mexican celebrations, especially during birthdays and Las Posadas. Breaking it symbolizes overcoming challenges, blending fun with deep cultural traditions.

FINAL DELIVERABLE EXPLORA

In this chapter, we will discuss the final proposal for the meaningfulness assessment method. We will discuss all subcomponents of the method in detail, after which we will see how it integrates into the overall workflow of Cocolab as a company. We will start by briefly discussing the background, after which we will discuss the scope of the final proposal. We will then start by explaining the overall composition of the building blocks on the detailed timeline (the Sandwich Assessment), after which each building block will be discussed in greater detail. Then, we will discuss how each building block can adapted to the specific context of an experience, by looking at the decision tree. We will then look at the platform on wich all data will be stored, analyzed, and displayed. Finally we see how the final proposal for the assessment method will fit in the overall workflow of Cocolab, by focusing on the integration scheme.

11.1 Background

In the previous chapter, we discussed the development, initial implementation, iterations, and final refinement of the Sandwich Assessment method. This method is built on the understanding that Cocolab's experiences vary significantly in terms of themes, levels of abstraction, target audience types and sizes, budget constraints, and Cocolab's role within each project. To accommodate this diversity, we introduced the concept of building blocks - fundamental components of the assessment method that ensure we ultimately capture the key metric: the meaningfulness of the experience.

While these building blocks are essential, they are designed to be adaptable, allowing for flexibility in their application based on the unique characteristics of each experience. However, the sequence in which they are implemented, as well as the timing of their execution relative to the experience itself, remains fixed to ensure consistency in the data collected.

In this chapter, we explore how all these elements - the purpose of assessment (understanding the meaningfulness of an experience), the sequence and timing of the building blocks, the building blocks themselves, their adaptability to different contexts, and their potential uses beyond assessment - converge into a single, comprehensive final deliverable: EXPLORA.

11.2 Scope

The final deliverable - EXPLORA - will be presented according to its most crucial elements, outlining how they come together to form a comprehensive assessment framework. This chapter will cover:

- EXPLORA - The central platform where all elements are integrated, providing a complete overview of the assessment method, including how to implement, monitor, and analyze it, as well as how it can be embedded into other aspects of the design process.
- The Purpose of Assessment - Explains the overall purpose of the assessment method, focusing on briefly decomposing the two main dimensions of assessment - the generation of insights (assessed with the SOLO Taxonomy) and the connection of these insights to someone's sources of meaning in life (assessed with CPVP Fulfillment).
- Sandwich Assessment Sequence - The rigid overarching structure, detailing the sequence and timing of the building blocks to ensure consistency in data collection.
- Building Blocks - A breakdown of the 15 fundamental components, highlighting their function while demonstrating their adaptability to different experience contexts.
- Suggestive Composition Manual - Guidelines for tailoring the building blocks based on specific contextual factors.
- Integration Scheme - A framework that illustrates how EXPLORA can be incorporated at various stages of Cocolab's design process, INSPIRE, for purposes beyond assessment alone.

Lastly, it is important to note that at this stage, the final product remains largely conceptual. While certain aspects have been prototyped, EXPLORA primarily exists as a hypothetical system, consisting of detailed mock-ups that visualize the platform and its intended functionalities.

11.3 Introducing EXPLORA

We have now arrived at the final deliverable of this project - EXPLORA (short for Experience Laboratory on (P)Reflective Assessment). In this section, we will briefly introduce what EXPLORA is, its purpose, its key components, and how it can be used.

As previously discussed, the overall assessment method consists of five key subcomponents that ensure its applicability for its primary goal: the quantitative assessment of the meaningfulness of immersive multimedia experiences. These subcomponents include the purpose of assessment, the sequence of building blocks, the 15 building blocks themselves, the suggestive composition manual, and the integration scheme. All these elements are brought together under the umbrella of EXPLORA, combined forming a cohesive and adaptable assessment method.

11.3.1 EXPLORA - What is it?

Image 11.1: Impression of EXPLORA logo ~ Source: image by M. Acarira Santoyo Farfán (Graphic Designer at Cocolab)

EXPLORA is envisioned as a digital platform that provides a structured yet flexible approach to assessing the meaningfulness of immersive multimedia experiences. It consolidates all necessary tools, guidelines, and data collection mechanisms in one place, allowing experience designers - such as Cocolab - to easily implement, monitor, and analyze assessments. While it primarily serves as an assessment tool, EXPLORA also facilitates deeper integration with the creative process, helping teams refine experiences based on real-time insights. The platform integrates the five key subcomponents discussed earlier, offering comprehensive guidance on each one. In the following sections, we will explore these subcomponents within the context of EXPLORA, detailing their role, functionality, and impact on the assessment and design of immersive experiences.

Again, it is important to note, that at this stage, EXPLORA remains largely a conceptual platform. While certain elements have been prototyped as described in the previous chapter, the platform itself, as we will see in future sections, exists as a set of mock-ups illustrating its intended structure and functionality. Future development would involve translating all these mock-ups into a fully functional system.

11.3.2 EXPLORA - End User

The primary end users of EXPLORA are professionals involved in the design, development, and evaluation of immersive multimedia experiences. These include:

- Cocolab - as the originating company, Cocolab can use EXPLORA to assess and refine its experiences, ensuring they achieve the intended level of meaningfulness.
- Companies similar to Cocolab - other experience design firms that create immersive environments can implement EXPLORA to evaluate their work and enhance audience engagement.
- Independent creators and designers - freelance or independent designers working on immersive experiences can use EXPLORA as a cohesive platform and structured assessment method for evaluating their projects.
- Strategists and marketing specialists - professionals focused on audience engagement, brand storytelling, and impact measurement can use EXPLORA to gain insights into how experiences resonate with participants, other than insights derived from more traditional demographic segmentation.
- Cultural institutions and event organizers - museums, festivals, and exhibition curators can apply EXPLORA to assess visitor engagement and optimize future installations.

Ultimately, EXPLORA is designed for anyone who seeks to understand, measure, and enhance the meaningfulness of immersive multimedia experiences.

Image 11.2: Impression of the EXPLORA platform on 3 mobile devices ~ Source: image by M. Acarira Santoyo Farfán (Graphic Designer at Cocolab)

11.4 Purpose of Assessment

A crucial aspect that the end user of EXPLORA must be able to access is the purpose of the assessment itself. What exactly is being understood when EXPLORA is implemented in an experience? To answer this, we must revisit the discovery and definition phase of this project.

11.4.1 Main Assessment Dimensions

The primary goal of our assessment method is to quantitatively evaluate the extent to which an immersive multimedia experience is meaningful to its visitors. Using Duerden's framework on extraordinary experiences (2025), we have broken down meaningfulness into two core criteria:

- C1 - The Generation of Insights: To what extent has the experience led visitors to form new insights?
- C2 - The Connection of These Insights to Personal Sources of Meaning: To what extent do these insights resonate with or reinforce what visitors find meaningful in life?

To assess these two criteria, we have introduced and adapted two theoretical frameworks:

- SOLO Taxonomy - Used to evaluate C1, this framework helps us measure the depth of insights generated and how well they align with the experience's main theme. This will be further detailed in our discussion on the building blocks.
- Schwartz's Values Model (1992) - Adapted for CPVP - To assess C2, we propose that the stronger the alignment between an experience and an individual's Contextual Personal Value Profile (CPVP), the more effectively insights will be connected to their sources of meaning in life. Understanding how well an experience fulfills a visitor's CPVP allows us to measure the extent to which C2 has been achieved. This will also be further explored in the discussion on the building blocks.

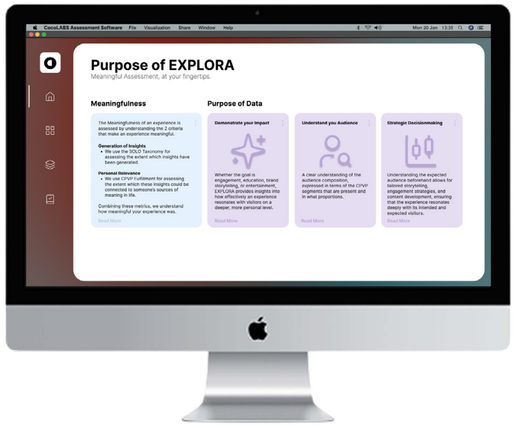

Image 11.3: Impression of the EXPLORA Purpose ~ Source: image by myself

11.4.2 Purpose of Data

The data gathered through EXPLORA is intended to serve multiple functions, which can be explored by the end user of EXPLORA.

11.4.2.1 Demonstrating Purpose Fulfillment and/or Impact

For Cocolab - and similarly for organizations, museums, and brands - the data collected through EXPLORA serves as quantifiable proof of a company's success in fulfilling its purpose. In Cocolab's case, this means demonstrating how well it achieves its mission of "creating positive, meaningful, immersive multimedia experiences."

For companies that do not explicitly have "meaningfulness" as a core objective, the data remains valuable as an indicator of the emotional and cognitive impact their experiences have on their audience. Whether the goal is engagement, education, brand storytelling, or entertainment, EXPLORA provides insights into how effectively an experience resonates with visitors on a deeper, more personal level.

11.4.2.2 Audience Understanding and Experience Improvements

The insights gained from EXPLORA also enable experience designers to better tailor their work to different audience segments. By identifying the value profiles (CPVPs) that resonate most with visitors, creators can refine experiences to better align with audience expectations and needs. As we will explore further in our discussion on the building blocks, the data analysis allows for segmentation of target audiences based on their preferred CPVPs. This segmentation provides three key benefits:

- A clear understanding of the audience composition, expressed in terms of the CPVP segments that are present and in what proportions.
- An assessment of how well each segment's CPVP was fulfilled, or how effectively visitors developed the intended level of understanding of the main theme (through SOLO).
- The ability to identify strengths and weaknesses, by determining which CPVP segments were well-served and which were underserved, in trun creating unique opportunities for the improvement of the experience.

11.4.2.3 Strategic Decisionmaking

The data obtained through EXPLORA provides measurable insights that can inform broader creative and business strategies. Beyond its primary function as an assessment tool, EXPLORA has the potential to be leveraged in various strategic applications.

- By segmenting audiences based on their CPVPs, creators can design experiences with greater precision. Understanding the expected audience beforehand allows for tailored storytelling, engagement strategies, and content development, ensuring that the experience resonates deeply with its intended and expected visitors.
- Organizations looking to sponsor or promote experiences - such as those of Cocolab - can benefit from EXPLORA's data by ensuring alignment between their brand values and audience interests. By matching a sponsor's objectives with an experience's audience profile expressed in terms of their CPVP, partnerships can be more strategically targeted, leading to greater audience engagement and higher ROI for sponsors.

11.5 Sandwich Assessment Sequence

The assessment method structures and sequences the building blocks along a detailed timeline of the experience. This sequencing and timing serves as the rigid backbone of the method, ensuring that data is collected consistently across different experiences while maintaining comparability and reliability. It is important to note that adaptability is still a key principle - achieved through the flexible application of the building blocks, guided by the Suggestive Composition Manual, which we will discuss in subsequent sections.

Resulting from two implementations at LUM, the Sandwich Assessment is the final selection of sequences and timing of Building Blocks onto the detailed timeline of an experience. In this section, we will discuss the main components of this assessment sequence, how it should be thightly packed around the experience, and how it will serve the overall purpose of effectively assessing the meaningfulness of the experience, all of which will also be accessible by the end user of EXPLORA.

11.5.1 In-Take Phase

The In-Take Phase is the entry point for participants into the assessment method, ensuring their awareness, engagement, and readiness for evaluation. This phase takes place during the “Arrival at the Experience” stage of the timeline, occurring on-site and pre-experience within a -2 to 0 hour timeframe relative to the start of the experience. During this phase, the focus is on seamlessly integrating participants into the assessment process through a structured sequence of Building Blocks:

Participant Awareness & Inclusion

- B6) Participants are informed about the existence of the assessment (B6).
- B7) Those selected for participation are notified and onboarded (B7).
- B8 & B9) The incentive for participation is communicated (B8), and in some cases, co-created (B9) with participants for added engagement.

Preflection & CPVP Assessment

- B1) Participants engage in preflection (B1), a guided process that mentally prepares them for the experience by encouraging self-awareness and anticipation.
- B3) Their Initial CPVP Understanding is assessed (B3) before they engage with the experience, ensuring an unbiased baseline measurement.

Back-End Data Handling

- B11) The Initial CPVP Understanding is collected and processed (B11).
- B14) This data is securely stored for future comparison and analysis (B14).

The In-Take Phase follows a strategically designed sequence to maximize participant engagement, minimize bias, and ensure high-quality data collection. Each building block is positioned deliberately to serve a specific purpose in preparing participants for the assessment.

Building awareness before action (i.e. preflection and assessment of CPVP) is a crucial first step in the In-Take Phase. Introducing the existence of the assessment (B6) ensures that participants are not caught off guard and can approach it with curiosity rather than resistance. Immediately afterward, notifying selected participants (B7) establishes their role and importance in the process, reinforcing their willingness to engage. At this stage, clarifying the incentive (B8) or co-creating (B9) it builds motivation and commitment, ensuring that participants feel personally invested in the assessment, and its post-experience completion.

As discussed earlier, to avoid experience-induced bias, it is essential to assess the Initial CPVP Understanding (B3) before participants are exposed to the experience. If measured afterward, their responses could be influenced during the experience itself, potentially skewing the baseline measurement of their CPVP and to be assessed CPVP Fulfillment.

Mentally preparing participants is another key aspect of this phase. Engaging in preflection (B1) before assessing the CPVP acts as a mental warming-up, guiding participants into the ‘right’ reflective state. This process helps them articulate their preferred values in the context of the experience more clearly, leading to higher-quality responses.

Finally, guaranteeing that data integrity and storage is a fundamental part of the process. Immediately after collection, the Initial CPVP Understanding (B11) is processed and securely stored (B14), ensuring that no data is lost or altered before post-experience comparisons are made.

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11.5.2 Take-Out Phase

The Take-Out Phase marks the second and final stage of the assessment process, ensuring participants’ re-engagement, readiness for completion, and fulfillment or giving of their incentive. Again, this phase is designed to seamlessly reintegrate participants into the assessment.

Participant Awareness & Re-Inclusion

- B6) Participants are reminded of the assessment’s existence and their participation in it (B6).
- B8) Participants are reminded of their incentive (B8), ensuring continued motivation to complete the assessment.

Reflection, SOLO Understanding & CPVP Fulfillment

- B2) Participants engage in structured reflection (B2), a guided process that encourages them to briefly process and articulate their experience. This reflection serves as a cognitive bridge to assessing their SOLO Understanding (B5) and CPVP Fulfillment (B4).
- B5) Following B2, their SOLO Understanding (B5) will be assessed. Since this is assessment dimension is perceived as being of a lower level of abstraction, it is crucial to assess B5 before the CPVP Fulfillment (B4).
- B4) Lastly, the CPVP Fulfillment is assessed (B4).

Exclusion

- B10) On the participant side, the process concludes with the fulfillment of their incentive (B10), which closes their assessment loop.

Back-End Data Handling & Analysis

- B13) The SOLO Understanding is collected and processed (B13).
- B12) The CPVP Fulfillment is collected and processed (B12).
- B14) This data is securely stored for future comparison and analysis (B14).
- B15) All data obtained is processed, analysed, and synthesized (B15).

The Take-Out Phase is structured to guide participants through a seamless and logical sequence, to ensure thel completion of their assessment while maintaining engagement and data integrity. The process begins by re-establishing participants’ awareness of the assessment. Reminding them of their participation (B6) serves as a gentle re-entry into the process, ensuring they remain conscious of their role. This is immediately followed by reinforcing their incentive (B8), which aims to maintain their motivation and encourages their full engagement with the final assessment steps.

Once participants are mentally re-engaged, they transition into structured reflection (B2). This step acts as a cognitive bridge between their lived experience and the assessment of their SOLO Understanding (B5) and CPVP Fulfillment (B4). Reflection allows them to process their experience actively, which makes it easier to articulate their responses in a meaningful way. The SOLO Understanding (B5) is assessed first, as it operates on a lower level of abstraction, capturing participants’ interpretation of the (main theme of the) experience. This assessment lays the foundation for evaluating CPVP Fulfillment (B4), which requires deeper introspection about the extent to which the experience aligned with their personal values.

The participant’s role in the assessment process concludes with the fulfillment of their incentive (B10), which serves as a form of closure. It reinforces their contribution and ensures a positive final impression. Meanwhile, on the back-end, the SOLO Understanding (B13) and CPVP Fulfillment (B12) data are collected and processed before being securely stored (B14). The final step (B15) involves the analysis and synthesis of all collected data, ensuring that meaningful insights can be drawn from the assessment.

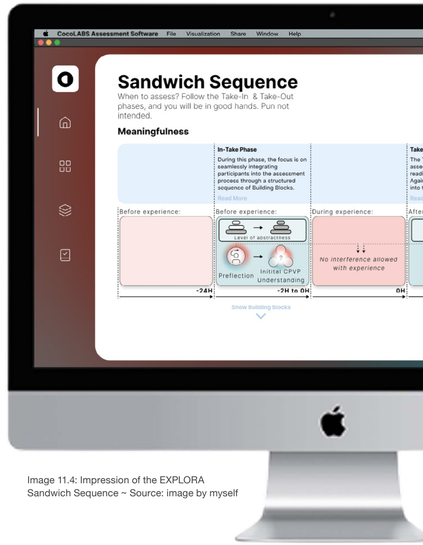
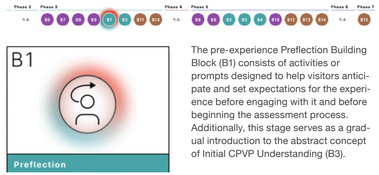


Image 11.4: Impression of the EXPLORA Sandwich Sequence ~ Source: image by myself

11.6 Building Blocks

In the previous section, we outlined the Sandwich Assessment Sequence, the structured framework of EXPLORA that ensures consistent data collection across different experiences while maintaining comparability and reliability. In this section, we focus on the individual building blocks that make up this sequence. These building blocks serve as a flexible and adaptable ‘buffer zone,’ allowing EXPLORA to adjust to the specific circumstances of each experience. While each building block has a core component that must be preserved to maintain methodological integrity, there is also room for adaptation based on the context of the experience. The following sections will examine each building block in detail, clarifying which aspects are fixed and which can be adjusted.

11.6.1 B1: Preflection



The pre-experience Preflection Building Block (B1) consists of activities or prompts designed to help visitors anticipate and set expectations for the experience before engaging with it and before beginning the assessment process. Additionally, this stage serves as a gradual introduction to the abstract concept of Initial CPVP Understanding (B3).

Rigid Components

As discussed in Chapter [X], effective preflection requires a gradual increase in complexity. To achieve this, we guide participants through a concise adaptation of Gibbs’ Reflective Cycle, tailored to generate a prospective perspective. This structured approach consists of three key steps, which should ideally be completed collectively within the visitor group (e.g., family, friends, colleagues).

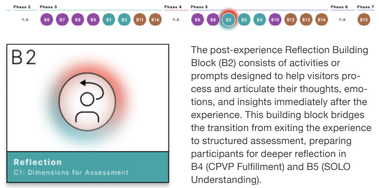
- Objective - What do you expect to see in the experience?
- Semi-Objective - What do you expect to do during the experience?
- Subjective - What do you expect to feel during the experience?

These steps provide a scaffolded approach, ensuring that participants move from factual expectations toward a more personal, emotional engagement with the experience, preparing them for the assessment of the Initial CPVP Understanding (B3).

Flexible Components

The format of the preflective session, the tools used, and how seamlessly it integrates into the overall experience fall within the adaptable aspects of B1. Depending on the experience’s nature, preflection can e.g. be facilitated through digital interfaces, physical prompts, guided discussions, or interactive installations. The key is to ensure that preflection is engaging and sets the stage for B3 while maintaining the structured three-step approach.

11.6.2 B2: Reflection



The post-experience Reflection Building Block (B2) consists of activities or prompts designed to help visitors process and articulate their thoughts, emotions, and insights immediately after the experience. This building block bridges the transition from exiting the experience to structured assessment, preparing participants for deeper reflection in B4 (CPVP Fulfillment) and B5 (SOLO Understanding).

Rigid Components

Similar to preflection (B1) and as discussed in Chapter [X], effective reflection requires a structured yet accessible approach. To facilitate this, participants are guided through a concise adaptation of Gibbs’ Reflective Cycle, tailored to encourage retrospective introspection. This process follows three key steps, ideally completed collectively within the visitor group (e.g., family, friends, colleagues).

- Objective - What did you do see during the experience?
- Semi-Objective - What did you do during the experience?
- Subjective - How did the experience make you feel?

By following this approach, participants transition from recalling factual elements to exploring personal and emotional responses, setting the foundation for a more effective post-experience assessment of CPVP Fulfillment (B4) and SOLO Understanding (B5).

Flexible Components

Again similar to B1, the format of the reflection session, the tools used, and its level of integration into the overall experience are adaptable elements of B2. Depending on the context, reflection can e.g. be facilitated through digital prompts, guided discussions, journaling exercises, or interactive installations. The key is to ensure that reflection remains engaging and encourages thoughtful consideration while maintaining the structured three-step approach.

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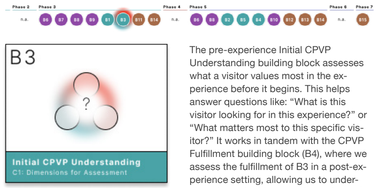
11.6.3 B3: CPVP Understanding



The pre-experience Initial CPVP Understanding building block assesses what a visitor values most in the experience before it begins. This helps answer questions like: “What is this visitor looking for in this experience?” or “What matters most to this specific visitor?” It works in tandem with the CPVP Fulfillment building block (B4), where we assess the fulfillment of B3 in a post-experience setting, allowing us to understand the extent to which the criteria of “connecting insights to one’s sources of meaning in life” has been fulfilled.

Rigid Components

Timing and Sequence - As discussed in Chapters [X] and [X], this building block must be deployed before the experience starts, within a -2H to 0H on-site timeframe. This ensures responses are uninfluenced by the experience itself. B3 should always follow Preflection (B1) to help participants transition smoothly into articulating their values.

Question Framing - Visitors should never encounter academic terms like CPVP or Contextual Personal Value Profile. Instead, a clear, structured and closed question guides them, such as the one presented below:

- “What is most important to you during this experience? Please select the option that best aligns with your expectations. Choose one, please. I want…”

This phrasing is simple, direct, and prompts participants to articulate their priorities naturally.

Answer Format - Participants choose one of twelve statements, each - in groups of three - aligning with one of the four Schwartz’s value dimensions. To prevent Social Response Bias, the statements are:

- Randomized (so participants don’t recognize categories)
- Neutral in tone (to avoid preference for ‘positive’ statements)
- Similar in length and complexity (to prevent selection of ‘smarter-sounding’ options)

An example set of these contextualized options can be seen below:

- Openness to Change
- To awaken my imagination and creativity
- To experience something new and exciting
- To explore and find inspiration

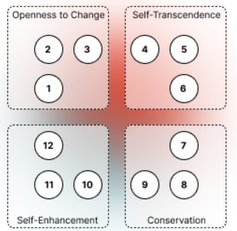
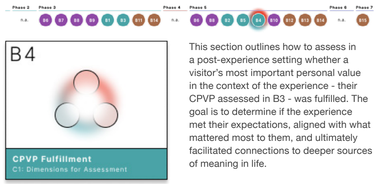


Image 11.5: Example of all 4 value dimensions and 12 belonging sentences ~ Source: image by myself

Flexible Components

The ‘delivery method’ for this building block can vary, allowing for implementation through e.g. digital interfaces or printed surveys. How it integrates into the experience is also flexible - it may be embedded in the ticketing process, included at check-in, or presented as part of a guided pre-experience activity. Additionally, while the structure remains consistent, the statements should always be adapted to reflect the context and theme of the experience, ensuring relevance while maintaining alignment with Schwartz’s value dimensions.

11.6.4 B4: CPVP Fulfillment



This section outlines how to assess in a post-experience setting whether a visitor's most important personal value in the context of the experience - their CPVP assessed in B3 - was fulfilled. The goal is to determine if the experience met their expectations, aligned with what mattered most to them, and ultimately facilitated connections to deeper sources of meaning in life.

Rigid Components

Timing & Sequence - The CPVP Fulfillment assessment must take place only after the experience has concluded, specifically in Phase 5. Visitors must have already engaged in Reflection (B2) and articulated their understanding of the experience's main theme through SOLO Understanding (B5) before assessing CPVP Fulfillment. This ensures they are in the correct reflective mindset and at the appropriate level of abstraction to evaluate their experience meaningfully. Conducting this assessment too early would lead to premature or confused responses, as visitors may not yet have fully processed the experience.

Question Framing - The question format must remain consistent across implementations to ensure comparability. Based on successful iterations at LUM 2, the validated phrasing is:

- "Before [experience x], you selected [selected Initial CPVP Understanding from B3] you considered most important to you during this experience. Did you find what was most important to you?"

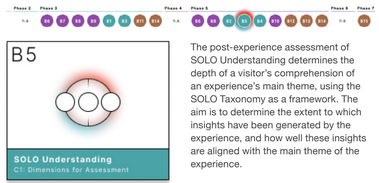
Additionally, the participant's initial CPVP selection must always be repeated at the moment of questioning. This is a required step to reinforce personal relevance and help visitors recall their initial expectations and ensures more accurate self-assessment.

Answer Format - The Likert scale format must also remain consistent, using a five-point scale ranging from "Not at all…" to "Completely!" to ensure structured and measurable responses. This standardization allows results to be consistently compared across different experiences.

Flexible Components

Similar to B3, the 'delivery method' for this building block is flexible and can be implemented through e.g. digital interfaces, printed surveys, or interactive kiosks. Its integration into the experience can also vary, taking place immediately after the experience concludes at e.g. designated reflection stations. While the core structure of the assessment remains consistent, the wording should always be adapted to align with the theme and context of the experience, ensuring relevance while maintaining alignment with the visitor's initially identified CPVP (B4).

11.6.5 B5: SOLO Understanding



The post-experience assessment of SOLO Understanding determines the depth of a visitor's comprehension of an experience's main theme, using the SOLO Taxonomy as a framework. The aim is to determine the extent to which insights have been generated by the experience, and how well these insights are aligned with the main theme of the experience.

Rigid Components

Timing & Sequence - This assessment is only conducted after the experience concludes and after visitors have had the opportunity to reflect (B2). It must also always precede B4: CPVP Fulfillment to ensure a logical progression from concrete to abstract evaluation.

Question and Answer Framing - The aim of the questioning is to evaluate the extent to which insights have been generated, and to what extent these generated insights are aligned with the main theme of the experience. The first and most important question focuses on assessing the extent to which insights have been generated. Should a visitor feel that their own understanding does not align with the options proposed by the first questions, they will be asked to move on to the second question. The first goal is evaluated through the following question:

- "What did you learn? Select the one word or phrase that best captures what you learned or understood from this experience. If your understanding does not align with one of the five presented answers, please skip this question and continue to the next question."

The options for responses must always align with the levels of the SOLO Taxonomy and, subsequently, the highest level of the SOLO Taxonomy must correspond to the experience's main theme. The question must be presented in a clear, neutral tone to avoid bias and should always focus on the generated insights by the experience. The options should be randomized to prevent Social Response Bias in responses and should not follow any clear order based on complexity. Each response option should be of the same level of complexity, length, and language, ensuring consistency across all options. Below, an example set of answers from the earlier discussed experience of LUM is provided:

- Extended Abstract aligned with Main Theme - Being present with myself and the moment makes me a better person.
- Relational - Connecting breath, focus, and mindfulness unites my body and mind.
- Multistructural - Each room showed me a different way to practice meditation, like breathing and focusing.
- Unistructural - Breathing deeply is a way to practice meditation.
- Prestructural - The rooms had relaxing colors and sounds to look at and listen to.

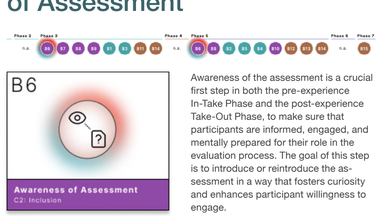
The same criteria set for mitigating the Social Response Bias also hold for the second question to be asked within the SOLO Understanding Building Block. Here, we focus on assessing the alignment between the insights generated within the visitor and the main theme of the experience. It only needs to be answered if the visitors feels as if the previous proposed options do not align with their own understanding.

- "Please only answer this question if you believe your understanding does not align with one of the five options presented in the previous question. Please, describe in your own words or sentences your main take away from this experience."

Flexible Components

Similar to B3 and B4, the 'delivery method' for this building block is flexible and can be implemented through e.g. digital interfaces, printed surveys, or interactive kiosks. Its integration into the experience can also vary, taking place immediately after the experience concludes at e.g. designated reflection stations. While the core structure of the assessment remains consistent, the wording should always be adapted to align the SOLO Taxonomy with the main theme and context of the experience, ensuring relevance.

11.6.6 B6: Awareness of Assessment



Awareness of the assessment is a crucial first step in both the pre-experience In-Take Phase and the post-experience Take-Out Phase, to make sure that participants are informed, engaged, and mentally prepared for their role in the evaluation process. The goal of this step is to introduce or reintroduce the assessment in a way that fosters curiosity and enhances participant willingness to engage.

Rigid Components

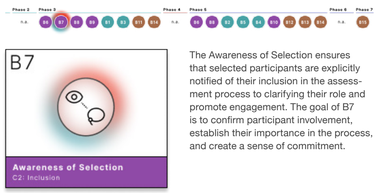
Timing & Sequence - In the In-Take Phase, participants must be informed before the experience begins It is the start of every inclusion of participant into the assessment method. During the Take-Out Phase, participants must be reminded immediately post-experience, before engaging in reflection and assessment.

Framing of Assessment - When making participants aware of the assessment, the assessment must be framed as an integral, yet non-disruptive and voluntarily, part of the experience. It should only be communicated to participants for whom it is intended to participate in the assessment method, to minimize disruptions for non-participants. The awareness message must be clear and concise, communicating the existence of the assessment, the purpose of the assessment (i.e., evaluating meaningfulness of the experience), and the assurance of data confidentiality to encourage honest responses.

Flexible Components

While B6 ensures all participants are informed, its communication can be adapted based on context, experience type, and audience. Notifications may be digital (SMS, email, app alerts) or physical (staff interactions, brochures, signage), or hybrid (digital display, interactive kiosks). The tone can be formal for research or playful for interactive experiences, with wording adjusted for different demographics expected to visit the experience. Interactivity ranges from passive (pop-ups, pre-recorded messages) to active (staff explanations, digital assistants).

11.6.7 B7: Awareness of Selection



The Awareness of Selection ensures that selected participants are explicitly notified of their inclusion in the assessment process to clarifying their role and promote engagement. The goal of B7 is to confirm participant involvement, establish their importance in the process, and create a sense of commitment.

Rigid Components

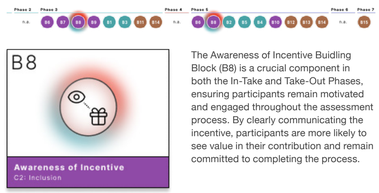
Timing & Sequence - This step occurs immediately after pre-experience general awareness (B6) and before preflection (B1) and post-experience incentive communication (B8).

Framing of Selection - All selected participants must be explicitly informed that they have been chosen to take part in the assessment. Selected participants must acknowledge their participation. This can be as simple as a verbal confirmation, a digital acceptance (e.g., clicking 'confirm' on an app), or signing a brief consent form.

Flexible Components

Similar to B6, participants can be notified of their selection through digital (email, SMS, app) or physical (staff, printed cards, on-site lists) methods, or a hybrid of both. The tone adapts to the experience, from formal instructions in research settings to playful messaging in interactive installations. Notifications can be passive (simple confirmation) or active (QR codes, staff interaction).

11.6.8 B8: Awareness of Incentive



The Awareness of Incentive Buidling Block (B8) is a crucial component in both the In-Take and Take-Out Phases, ensuring participants remain motivated and engaged throughout the assessment process. By clearly communicating the incentive, participants are more likely to see value in their contribution and remain committed to completing the process.

Rigid Components

Timing & Sequence - The B8 Building Block ensures that all participants are informed about the incentive in a timely and structured manner. Regardless of the experience, the incentive must be introduced early in the In-Take Phase and Take-Out Phase, reinforcing motivation from the outset of both phases. In a pre-experience setting, it should follow up B6 and B7, and precede B9, ensuring participants are already aware of assessment and their role in it, and before the start of the potential co-creation of their incentive. In a post-experience setting, it should be implemented after the awareness of the assessment has been restored (B6), and before starting with the reflection (B2) and actual assessment of the experience (B5 and B4), ensuring participants are reminded of their incentive and motivated for the subsequent building blocks.

Framing of Incentive - This includes a clear, unambiguous explanation of what participants will receive in return for their participation in the assessment method, ensuring transparency and fostering motivation for participation or completion.

Flexible Components

Similar to B6 and B7, the format of communication about the incentive can vary, ranging from digital notifications (such as app messages or emails) to in-person interactions (such as staff reminders or printed materials). The incentive itself can also be adjusted depending on the context - it may be a tangible reward, an exclusive opportunity, or a symbolic gesture of appreciation. In some cases, participants may even co-create (as discussed in B9) their incentive, fostering a deeper sense of ownership and engagement. The tone and style of communication can also be tailored to match the experience's overall aesthetic, whether formal and research-driven or playful and immersive.

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11.6.9 B9: Creation of Incentive

The optional (Co)Creation of Incentive Building Block involves designing a compelling reason for participants to engage in the assessment, ensuring motivation and commitment throughout the assessment method. As not all experiences have time and space dedicated to the creation of personal artifacts, this building block should be considered optional.

Rigid Components

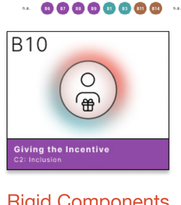
Timing & Sequence - Should the experience allow it, B9 should be integrated into the overall sequence of Building Blocks after awareness has been created about the incentive. It should precede B1, where the actual preflection onto the experience happens.

(Co)Creating the Incentive - In case the experience allows for the (co) creation of an incentive, the incentive itself should be aligned with the main theme of the experience, as now we are starting to actively integrate the assessment method into the experience itself. Additionally, it should also be clear that the incentive is created not only for the sake of obtaining a personal artefact or a token or reminder of the experience, but also as a conditional part of the assessment, as only a fully completed assessment should grant the participant access to the (co) created incentive.

Flexible Components

Here, Building Block B9 should allow for adaptation to the context of the experience (and the assessment of it) and participants' preferences, including the nature of the incentive - whether monetary, experiential, or symbolic - and the extent to which participants have a say in shaping it.

11.6.10 B10: Giving Incentive



The act of giving the predefined and optionally (co)created incentive (B10) marks the conclusion of the participant's engagement in the assessment process, ensuring that their contribution is acknowledged and that their motivation is maintained for potential future participation or visits to experiences.

Rigid Components

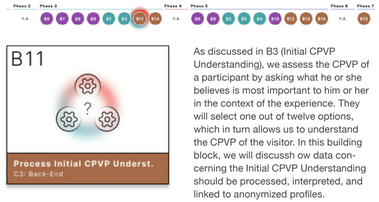
Conditions, Timing, and Sequence - B10 should be considered a conditional post-experience building block, only to be implemented into the 'personal' assessment sequence of a participant that has completed all necessary building blocks, particularly those of B3 (Initial CPVP Understanding), B5 (SOLO Understanding), and B4 (CPVP Fulfillment). It should follow up the last building block of the post-experience part of the assessment method - CPVP Fulfillment (B4).

Fulfilling the Promise of Incentive - The format, value, and delivery mode of the incentive are established beforehand (B8 and B9) and should thus be 'respected' by the actual incentive received by the participants. As stated in B8, the incentive should be in line with the main theme of the experience - yet perhaps (co)created with the participant, and be clearly part of the assessment method.

Flexible Components

Incentives that are not (co)created with participant, could still be tailored to participant preferences derived from the Initial CPVP Understanding (B3), and delivery methods can be adjusted to create a more engaging interaction. The tone and style of communication when handing over the incentive can also be tailored to match the experience's overall aesthetic or the participants' preferences, whether formal and research-driven or playful and immersive.

11.6.11 B11: Processing CPVP Understanding



As discussed in B3 (Initial CPVP Understanding), we assess the CPVP of a participant by asking what he or she believes is most important to him or her in the context of the experience. They will select one out of twelve options, which in turn allows us to understand the CPVP of the visitor. In this building block, we will discussh ow data concerning the Initial CPVP Understanding should be processed, interpreted, and linked to anonymized profiles.

Rigid Components

Processing - Depending on the option selected by the participant, one of the value dimensions by Schwartz should be assigned to the participant. This means that an individual, in the context of the experience, gets assigned the CPVP of either:

- Openness to Change
- Conservation
- Self-Enhancement
- Self-Transcendence

To ensure clarity and simplicity, each participant will only be assigned one value dimension. This ensures that their CPVP is represented by a single dominant value dimension in the context of the experience. For future iterations of this assessment method, more nuanced evaluations of the Initial CPVP Understanding could be implemented. These might include:

- Mapping a hierarchy or spectrum of value dimensions to understand relative preferences.
- Using all twelve value categories proposed by Schwartz to create a more detailed CPVP.

For now, the method focuses on identifying the participant's single most preferred value dimension in the context of the experience. This way, the output of this building blocks is the CPVP of a participant, expressed as a single value dimension linked to a anonymized profile.

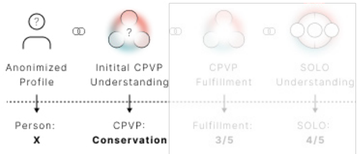


Image 11.6: Preferred CPVP Data Stored in Anonymized Profile ~ Source: image by myself

Linking the CPVP - Since the Initial CPVP Understanding (assessed in a pre-experience setting) will later need to be evaluated for fulfillment in B12 (CPVP Fulfillment), it is critical to ensure that the correct CPVP is linked back to the appropriate participant. This ensures that any fulfillment measurements genuinely reflect the participant's CPVP and their personal experience.

Concluding Workflow - To conclude, the workflow for this building block thus looks as follows.

- During the pre-experience assessment, each participant selects their most important value (from twelve options).
- This selection is used to assign one of Schwartz's four value dimensions.
- The assigned value dimension is linked to an anonymized profile to ensure privacy and accuracy.
- After the experience, the participant's post-experience responses (B12) are matched with their pre-experience CPVP to evaluate fulfillment.

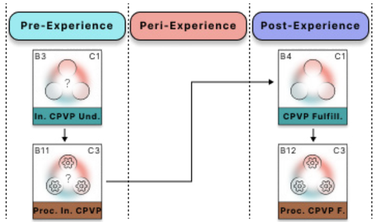
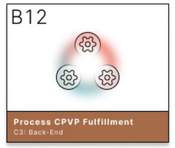


Image 11.7: Returning the right CPVP to the right individual ~ Source: image by myself

Flexible Components

There are several ways to ensure that the correct CPVP is brought back to the corresponding participant after the experience. The method chosen will depend on the specific context of the experience and the budgets and tools available. The method selected must maintain the participant's anonymity while ensuring accurate data linkage.

11.6.12 B12: Process CPVP Fulfillment



The goal of this building block is to evaluate whether their CPVP in the context of the experience, was fulfilled. This process answers key questions such as: "Did this experience meet the visitor's expectations?" and "To what extent did the experience align with what mattered most to the visitor?". In this section, we will outline how data on CPVP Fulfillment should be processed, interpreted, and linked back to anonymized profiles to ensure valid and meaningful insights.

Rigid Components

Processing - To assess CPVP Fulfillment, participants are asked to reflect on whether their most important value, identified in B3 (Initial CPVP Understanding) and processed in B11, was fulfilled during the experience. This assessment is conducted after participants have had time to process and reflect on the experience (as outlined in B2 and B4), ensuring they are in the appropriate reflective mindset and are introduced to right level of abstractness, before assessing.

Their answers are recorded on a 5-point Likert scale, ranging from "Not at all" to "Completely!", representing the extent to which the participants believes their CPVP was fulfilled. As discussed in B11, linking needs to happen between pre-experience Initial CPVP Understanding and post-experience CPVP Fulfillment. Assuming this link has been successfully established and the right CPVP is being assessed by the right participant, this building block then gives us a CPVP that is linked to an anonymized profile, and a score or the CPVP Fulfillment on a scale from one to five.

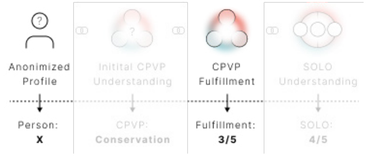


Image 11.8: CPVP Fulfillment Data Stored in Anonymized Profile ~ Source: image by myself

Linking the CPVP Fulfillment - To ensure that CPVP Fulfillment results are accurate and personalized, it is critical to link each participant's fulfillment response back to their Initial CPVP Understanding (B3). This step ensures that the fulfillment score reflects the fulfillment of the specific value dimension the participant identified as most important.

Concluding Workflow - The workflow for processing CPVP Fulfillment can be summarized as follows:

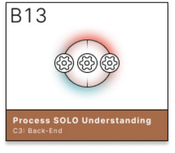
- Participants identify their CPVP in the pre-experience phase (see B3 and B11).
- Via anonymized profiles, the right CPVP is brought back to the right participant after the experience (see B11).
- After reflecting on the experience (B2), they evaluate the fulfillment of their CPVP using a Likert scale (1 to 5).
- Data is linked back to anonymized profiles to ensure accurate and meaningful results.

We now understand how well the experience fulfilled the CPVP of an individual, expressed on a scale from 1 to 5.

Flexible Components

Similar to B11, there are several ways to ensure that the correct CPVP is brought back to the corresponding participant after the experience so that it can be 'connected' to the CPVP Fulfillment (B12). Again, the method chosen will depend on the specific context of the experience and the budgets and tools available. The method selected must maintain the participant's anonymity while ensuring accurate data linkage.

11.6.13 B13: Process SOLO Understanding



In this section, we discuss how data related to SOLO Understanding, as described in Building Block B5, should be processed, interpreted, and linked to the overall assessment framework. SOLO Understanding is crucial in determining the depth of a visitor's comprehension of and the alignment with the main theme of the experience. By categorizing responses according to the SOLO Taxonomy, this building block allows us to evaluate how effectively the experience conveyed its intended message.

Rigid Components

It is important to note the within the Processing SOLO Understanding Building Block (B13) the assessment focuses on two key dimensions. The extent to which relevant insights have been generated by the experience, expressed within th SOLO Taxonomy, and the alignment of these insights with the main theme of the experience. Respectively, we call these dimensions the "Generation Factor" and the "Alignment Factor", of which the former is considered most most important, as we will discuss in B15 on analyzing data.

Processing SOLO Understanding - To process SOLO Understanding responses, the selected word or phrase from the predefined answer options (or the open-ended response in case of the second question on assessing the alignment of the insights with the main theme of the experience) must first be categorized into one of the five levels of the SOLO Taxonomy, that all represent a score from 1 to 5:

- Prestructural 1
- Uni Structural 2
- Multistructural 3
- Relational 4
- Extended Abstract 5

Selecting an answer that e.g. falls within the relational layer, thus gives you a Generation Factor score of 4 out of 5 for the SOLO Understanding. In addition, when answering within the the 5 pre-defined options of the SOLO Understanding, the participant automatically gets assigned a Alignment Factor score of 5/5 for its.

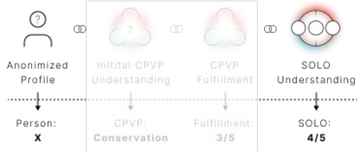


Image 11.9: SOLO Understanding Data Stored in Anonymized Profile ~ Source: image by myself

Responses are initially categorized based on the alignment between the selected option and the predefined SOLO levels, which gives us the Generation Factor score. Open-ended responses however (aimed at understanding the Alignment Factor), require additional analysis - manually, or potentially by the use of AI - to be graded a Generation Factor score.

Alignment Factor - When participants choose to fill in the second, open-ended question because they feel their perception of their generated insights does not align with the proposed set of multiple choice answers, the answer will be given in their own words or sentences. These answers will need to be analysed manually or with the use of AI, to assess the extent to which they align with the main theme of the experience (the alignment factor), and to assess the depths of these self-worded answers is, expressed in terms of the SOLO Taxonomy (the Generation Factor). Full alignment with the main theme of the experience is granted a 5/5, whereas answers perceived to be deviated entirely will be granted a 1/5.

Assuming most participants will not make use of this second open-ended questions as we have observed during or experiment at LUM, most participants will thus receive a 5/5 for their Alignment

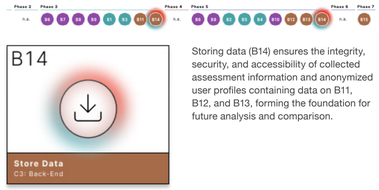
Factor score - as only answering the first question will automatically grant the participant a 5/5 - should on average for the entire experience result in an overall Alignment Factor score close to 5.

Linking SOLO Understanding - SOLO Understanding acts as a bridge between reflective activities (B2) and the evaluation of CPVP Fulfillment (B4). It provides a stepping stone for abstract thought, preparing visitors to assess whether their CPVP was fulfilled by the experience. To ensure the SOLO data integrates seamlessly between the other building blocks, we must, again, ensure the linkage of data to anonymized profiles (See B11).

Flexible Components

Similar to B11 and B12, there are several ways to ensure that the correct CPVP (B11) and CPVP Fulfillment (B12) is brought back to the corresponding participant after the experience so that it can be 'connected' to the SOLO Understanding (B13). Again, the method chosen will depend on the specific context of the experience and the budgets and tools available. The method selected must maintain the participant's anonymity while ensuring accurate data linkage.

11.6.14 B14: Storing Data



Storing data (B14) ensures the integrity, security, and accessibility of collected assessment information and anonymized user profiles containing data on B11, B12, and B13, forming the foundation for future analysis and comparison.

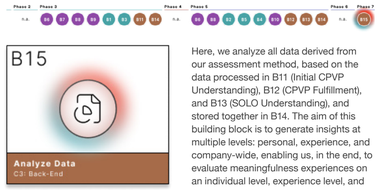
Rigid Components

Data must be securely stored in a predefined location, whether a cloud-based system, encrypted database, or physical archive - this depends again on the context of the experience and the way assessment was conducted. Access control should be strictly regulated, limiting retrieval to authorized personnel only, to prevent tampering or privacy breaches. A standardized storage format is maintained to ensure uniformity, making retrieval and future analysis efficient. The format is composed of the anonymized profile, the Initial CPVP Understanding, the CPVP Fulfillment, the SOLO Understanding (expressed in the Generation Factor and Alignment Factor), and additional information such as the date and time of assessment, the experience, and the location of the experience.

Flexible Components

Storage methods can be adapted depending on data volume, approach of assessment (analogue or digital) and the context of the experience. The level of encryption or anonymization may vary depending on ethical considerations and participant confidentiality agreements, and the extent to which assessment was integrated into the experience. The retention period can also be adjusted, ensuring compliance with national policies or legal requirements - depending on the location of the experience - while allowing flexibility for future research needs.

11.6.15 B15: Data Analysis



Here, we analyze all data derived from our assessment method, based on the data processed in B11 (Initial CPVP Understanding), B12 (CPVP Fulfillment), and B13 (SOLO Understanding), and stored together in B14. The aim of this building block is to generate insights at multiple levels: personal, experience, and company-wide, enabling us, in the end, to evaluate meaningfulness experiences on an individual level, experience level, and company wide level. In addition, we will look at other analysis that we can perform based on the data that we now have.

Rigid Components

Personal Level Analysis - The rigid components of this analysis include the core formulas and structured data points that are systematically derived from B11 (Initial CPVP Understanding), B12 (CPVP Fulfillment), and B13 (SOLO Understanding). These are non-negotiable elements of the method, as they provide the quantitative backbone for the assessment method. Specifically, the CPVP Fulfillment score, SOLO Understanding (in particular the Generation Factor) score, and the calculation of perceived meaningfulness are structured and standardized.

The SOLO Understanding with a focus on the Alignment Factor score, though indirectly influencing insights, follows a strict protocol where the AI model assigns a score based on predefined alignment thresholds.

In short, on a personal level, we thus have:

- CPVP: Expressed in terms of one of the four value dimensions.
- CPVP Fulfillment: Expressed on a Likert Scale from 1 to 5.
- SOLO Understanding - Generation Factor: Expressed within the SOLO Taxonomy on a scale from 1 to 5.
- SOLO Understanding - Alignment Factor: Expressed through manual or AI analysis on a scale from 1 to 5.

Experience Level Analysis - Now that we have discussed the analysed data on a personal level, we can move up a layer towards the analysis on an experience level. As we saw in the conclusion of the previous section, we now have 5 data points that belong to 1 anonymized profile. Before we delve into the different types of analysis we can conduct based on all participants involved in the assessment for a specific experience, we will first discuss how many participants should be included in the assessment in the first place. For this, we have to look at the total amount of visitors that we expect to come to a specific experience, the overall confidence level that we want to achieve, and the error margin that we will allow (See appendix N for a more elaborate discussion on this, including the formulas used for the amounts of to be included participants we are about to show). The total amount of participants we need to include into the assessment method, based different amounts of expected visitors, a 95% confidence level, and a 5% error margin, depends on the total amount of visitors - more visitors means relatively less participants.

Assuming we include a sufficient amount of participants (as we just saw, this depends on the total amount of expected visitors of the experience) into the assessment, we can now start to analyze the experience with a 95% level of confidence and a 5% error margin.

Overall CPVP Fulfillment - We start our data analysis on an experience wide level by looking at the Overall CPVP Fulfillment. This involves averaging the CPVP Fulfillment across all participants for a particular experience.

- Key Calculation: CPVP Fulfillment per experience = Average CPVP Fulfillment across all participants
- This metric provides a general sense of how well an experience delivered on its promise to meet participants' CPVPs. It is one of two dimensions that determine the overall meaningfulness of an experience.

CPVP Distribution - The CPVP Distribution helps us understand which value dimensions are most represented among the participants of an experience.

- Key Calculation: CPVP Distribution per experience = (Total number of participants selecting a specific value dimension) / (Total number of participants)
- This calculation expresses how many participants resonate with each CPVP dimension, helping to identify target audience segments and their preferences.

CPVP Fulfillment per Value Dimension - Beyond overall fulfillment, it is important to assess fulfillment within each CPVP Value Dimension.

- Key Calculation: CPVP Fulfillment per Value Dimension = Average fulfillment score of all participants within a specific value dimension
- By combining CPVP Distribution with CPVP Fulfillment, we can determine which segments were well-served and which may need adjustments in future iterations of the experience.

Overall SOLO Understanding - SOLO Understanding assesses how well an experience helped participants grasp abstract insights and the extent to which they are aligned with the main theme of the experience.

- Key Calculation: SOLO Generation Factor per experience = Average SOLO Understanding across all participants
- Additionally, we measure SOLO Alignment Factor: Key Calculation: SOLO Alignment Factor per experience = Average Alignment score across all participants

Higher Alignment scores indicate a closer alignment between participants' understanding and the intended theme of the experience.

SOLO Understanding per Value Dimension - To further analyze SOLO Understanding, we examine it within each CPVP Value Dimension.

- Key Calculation: SOLO Generation Factor per Value Dimension = Average SOLO Generation Factor of all participants within a specific value dimension
- We also calculate: SOLO Alignment Factor per Value Dimension = Average SOLO Alignment Factor within a specific value dimension
- This helps determine which audience segments gained the intended insights and which might need better engagement strategies.

Overall Meaningfulness - Meaningfulness is determined by combining SOLO Understanding (only focused on the Generation Factor, as the Overall Meaningfulness is independent of the the Alignment Factor, which will presented as a separate score) and CPVP Fulfillment.

- Key Calculation: Overall Meaningfulness per experience = (Overall SOLO Understanding (Generation Factor) + Overall CPVP Fulfillment) / 2
- This provides a holistic view of how meaningful an experience was for participants.

Meaningfulness per Value Dimension - Finally, we assess meaningfulness for each CPVP Value Dimension. Again, we do so by only focusing on the Generation Factor.

- Key Calculation: Meaningfulness per Value Dimension = (SOLO Understanding per Value Dimension (Generation Factor) + CPVP Fulfillment per Value Dimension) / 2
- This analysis helps us understand how different audience segments derive meaning from an experience and informs improvements for future experiences.

Quality of Data Obtained - As we have discussed at the beginning of this experience level analysis section, a certain amount of participants needs to be included into the assessment of a specific experience, in order to guarantee a certain confidence level and error margin. After an assessment has been completed, using the logic and formulas presented in appendix N, we can determine the overall quality of the data set (and thus the analysis that followed), by looking at the sample size and variability within the sample size.

Company Level Analysis - After completing the discovery and definition phases, we concluded that Cocolab's purpose in designing positive, meaningful, immersive multimedia experiences is to create meaningful connections between audiences and the themes within these experiences. With an expanding portfolio of assessed and to-be-assessed projects, we can now analyze the company's overall performance to gain a holistic understanding of its impact. As with the analyses on the Personal and Experience level, this company-level analysis focuses on key metrics such as CPVP Distribution, CPVP Fulfillment, SOLO Understanding, yet also CPVP Convergence to evaluate how effectively Cocolab delivers meaningful experiences at a company-wide level. All metrics discussed on the experience level analysis can be applied on a company wide level, and will thus not be discussed again.

CPVP Convergence - This metric examines shifts in audience value preferences during an experience. Certain values may become dominant compared to everyday preferences. We calculate this number per experience, but it only becomes relevant once larger quantities of experience have been assessed, allowing us to start observing patterns across experiences in terms of convergence.

- Key Calculation: CPVP Convergence Ratio = Sum of Participants with Dominant CPVP in an experience / Total Participants
- Identifying convergence trends helps categorize experiences in a novel way and optimize future design strategies.

SOLO Convergence - SOLO Convergence assesses whether comprehension shifts towards a specific level of the SOLO Taxonomy or alignment with the main theme of experiences.

- Key Calculation: SOLO Understanding Convergence Ratio = Sum of Participants with Dominant SOLO Understanding in an experience / Total Participants
- Identifying convergence trends helps categorize experiences in a novel way and optimize future design strategies.

Correlations and Integration - This analysis explores how CPVP metrics relate to SOLO Understanding and Overall Meaningfulness - correlations between each of the metrics presented earlier in this section. Rather than focusing on specific correlations, we take a broader view, recognizing that a variety of combinations of metrics will need to be analyzed over time with respect to their correlations, before patterns may emerge. For example, a potential relationship between CPVP Fulfillment and SOLO Understanding (as hypothesized in chapter [x]) could become evident through continuous tracking and analysis.

Furthermore, integrating this assessment method with existing experience-tracking tools - such as ticket sales, visitor heat maps, and NPS scores - can provide deeper insights. By analyzing correlations between EXPLORA's metrics and these established data points, a more comprehensive understanding of audience engagement and experience impact can be achieved.

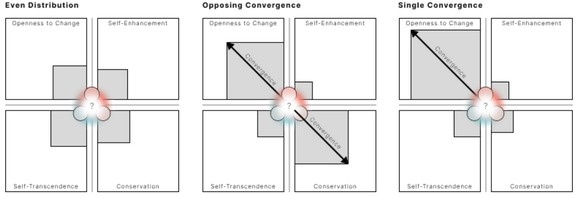


Image 11.9: CPVP Convergence visualized. ~ Source: image by myself

Quality of Data Obtained - Similar to the analysis on an Experience Level, a certain amount of participants needs to be included into the assessment of a specific experience, in order to guarantee a certain confidence level and error margin. After an assessment has been completed, using the logic and formulas presented in appendix N, we can determine the overall quality of the data set (and thus the analysis that followed), by looking at the sample size and variability within the sample size.

Flexible Components

The selection of data and how it is presented - both internally for analysis and externally for clients - can vary depending on the experience and the needs of the internal stakeholders or clients. Some projects may require in-depth breakdowns of CPVP Fulfillment per value dimension, while others may prioritize high-level insights on Overall Meaningfulness.

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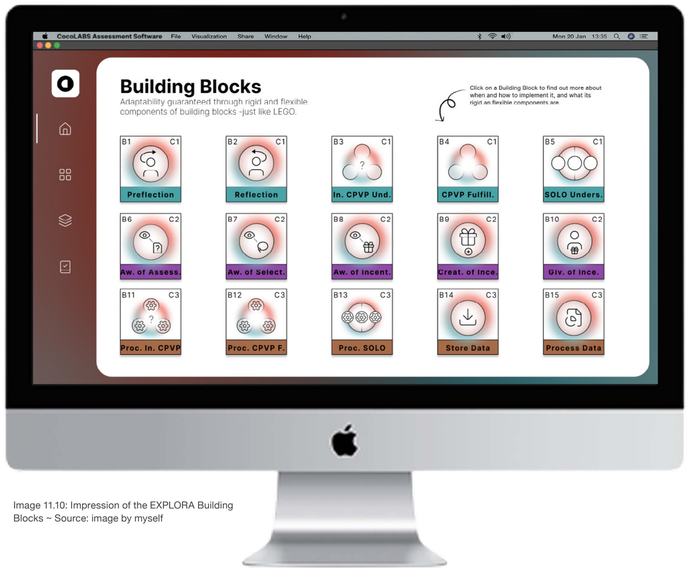


Image 11.10: Impression of the EXPLORA Building Blocks ~ Source: image by myself

11.6.16 Conclusion

The building blocks in this section are the flexible corner stones of our assessment sequence. All building blocks serve different purposes - varying from the inclusion of participants to the data analysis of all data obtained. Information concerning the implementation - both how and when - of each Building Block can be accessed by the user of the Explora platform, as illustrated to the left.

11.7 Suggestive Composition Manual

The building blocks and their overall sequence, as outlined in previous sections, have been designed to ensure adaptability across Cocolab's diverse portfolio. While the general sequence and timeline placement of these building blocks should always be maintained, we have deliberately allowed flexibility in their implementation to accommodate different project needs.This section presents a concise Suggestive Composition Manual, offering initial practical guidance on shaping these flexible components. Specifically, we will explore how various influencing factors - such as the nature of the experience, visitor characteristics, and available infrastructure - may impact the realization of these flexible components.

11.7.1 Main Theme of Experience

The Main Theme of the experience plays a crucial role in determining how the flexible components of the assessment method should be shaped in practice. While the method should be as unobtrusive as possible, its design must be adaptable to different themes and levels of interaction. For example, some experiences are more passive, such as immersive visual spectacles where visitors primarily observe, while others are highly interactive, requiring active participation by the visitor. Passive experiences may call for subtle, embedded assessment tools that do not disrupt the atmosphere, whereas interactive experiences allow for more direct engagement, such as in-the-moment digital feedback or gamified participation.

Additionally, the 'emotional tone' of an experience should be considered. A more reflective or culturally significant experience, such as Cocolab's Frida Immersive, could demand a more subtle approach to assessment - perhaps even by avoiding the use of flashy digital tools and going fully analog, while an energetic and playful installation such as COCO En Concierto can accommodate more dynamic and interactive and perhaps gamified feedback mechanisms.

11.7.2 Visitor Characteristics

Visitor characteristics further influence the flexibility of assessment implementation. Differences in age, digital literacy, and cultural background affect how visitors engage with assessment tools. Older visitors may find digital tools less inviting or intuitive and benefit more from tangible feedback methods, such as physical written analog reflections, as we have noticed during the second implementation at LUM. Younger audiences, on the other hand, may be more receptive to (gamified) digital formats, interactive kiosks, or AR-enhanced surveys. For children, assessments should be designed with simplified language, visual cues, and play-based mechanisms that align with their current cognitive and emotional development. Multilingual support, especially within the rich linguistic landscape of Mexico City, is another key consideration, particularly for the indigenous non-Spanish speaking communities and international visitors, and accessibility features should be integrated to accommodate visually impaired, hearing-impaired, or neurodiverse individuals. Additionally, the preferences or expectations of different target audiences should guide the design of the flexible component of the building blocks. A luxury brand customer experience, such as for Cocolab's Clase Azul project - a high-end Mexican tequila brand, would require a seamless and premium, perhaps even fully integrated due to the low amount of visitors, feedback method, whereas a more general and larger audience may be engaged effectively with cost- and time-efficient approaches.

11.7.3 Need or Avaliability for Integration

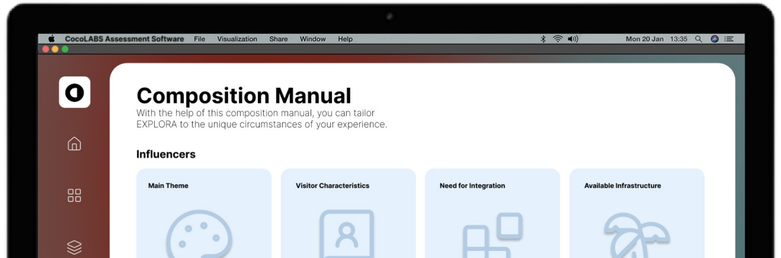
The possibility of integrating assessment tools naturally into the experience depends on how the experience is structured. Some experiences allow for seamless embedding of assessment tools within the narrative or interactive elements, making them feel like an organic part of the journey rather than an external add-on. This can take the form of pre-experience preflection walls, post-experience message boards, or interactive checkpoints that collect feedback without disrupting immersion. In experiences that incorporate a competitive or goal-oriented element, assessment tools can be woven into the engagement process through gamification, where visitors receive rewards, unlock content, or track their progress by simultaneously (unconciously) completing the assessment. Some environments also allow for contextual triggers, where assessments are activated at specific locations through QR codes, NFC tags, or motion sensors, creating a more integrated and natural method of collecting insights.

Especially for experiences with smaller visitor numbers, the assessment method should be fully integrated into the experience itself. As outlined in criterion [x] on data quality, smaller experiences require a relatively high participation rate - sometimes up to 80% of all visitors - to ensure sufficient data reliability. Seamlessly embedding the assessment within the experience is therefore essential to achieving the necessary confidence levels and maintaining acceptable error margins.

11.7.4 Avalaible Infrastrcture

The available infrastructure at a given location also affects which assessment tools can be implemented. Connectivity is a key factor, as experiences held in urban environments with stable internet allow for real-time digital assessments, while those in remote locations, such as archaeological sites or outdoor installations such as those at Teotihuacan, may require offline solutions like paper-based analog surveys or device-local data collection. Environmental conditions also play a role. Outdoor experiences must account for factors such as rain, humidity, or extreme temperatures, necessitating the use of weatherproof digital devices or durable physical materials. Again, the physical accessibility of assessment points should also be considered to ensure that all visitors, regardless of mobility, literacy, or age, can comfortably participate.

Image 11.11: Impression of the EXPLORA Suggestive Composition Manual ~ Source: image by myself



11.7.5 Assessment Budget

Budget constraints influence the level of technological sophistication that can be employed in assessment tools. High-budget projects can incorporate advanced digital feedback mechanisms, such as custom app development for seamless integration. Mid-range budgets may allow for tablet-based feedback stations, scannable QR codes leading to digital surveys, or NFC wristbands that track visitor engagement and prompt post-experience evaluations. Lower-budget assessments, while more analog in nature, can still be effective through methods such as reflection walls, token-based voting systems, AI analysed guided verbal feedback, or structured analog paper surveys. Even with limited financial resources, creative implementation can and should ensure that valuable insights are collected in a way that remains engaging and accessible.

11.7.2 Conclusion

This concise Suggestive Composition Manual provides adaptable guidelines for implementing the flexible assessment components within Cocolab's or others' experiences. By considering the key influencing factors - such as experience type, visitor demographics, integration possibilities, available infrastructure, and budget - the assessment method can be optimized for both accuracy and visitor engagement, while respecting the varying contexts of the experiences. While the general Sandwich structure of the assessment method remains consistent, flexibility in execution with the help of the abovementioned Suggestive Composition Manual allows for a tailored approach that aligns with the unique characteristics of each experience.

11.8 Integration Scheme

While EXPLORA was primarily developed as an assessment tool for immersive multimedia experience, to be implemented after an experience in the operation phase of INSPIRE - Cocolab's design cycle, its applicability extends beyond post-experience evaluation. By integrating EXPLORA into various stages of Cocolab's INSPIRE design process, it can serve as a dynamic framework for refining experiences throughout their development. This final section outlines how EXPLORA can be leveraged across different phases of the design cycle to enhance decision-making, creative direction, and audience engagement.

11.8.1 Integration

During the Program phase, EXPLORA can support early-stage research by helping teams identify key audience values and expectations. By integrating CPVP insights form previous experiences or brief CPVP assessment of the expected target audience at this early stage, Cocolab can align its creative vision with visitor aspirations, ensuring that the experience is designed with meaningful engagement in mind from the outset of the project.

Additionally, EXPLORA could be used as a sales tool, providing potential clients (potentially unaware of EXPLORA's existince) with data-driven insights into how immersive experiences can be tailored to meet specific audience values and last a truly - data-driven - meaningful impact. By presenting evidence from past assessments, Cocolab can demonstrate the impact and effectiveness of its design approach. This could help secure buy-in from stakeholders and ensure alignment between creative ambitions and business objectives.

11.8.2 Formation

In the Concept phase, EXPLORA can support the validation of initial ideas by testing them against audience expectations. A brief pre-assessment - based on CPVP and SOLO assessments - can be conducted to gauge potential reactions to different narrative themes, interaction models, or sensory elements. These insights help refine the experience strategy, ensuring that key emotional and cognitive touchpoints align with the intended audience's value profile from an early stage.

Secondly, this phase is an opportune moment to introduce benchmarks, as a clearer understanding of the experience and its target audience begins to take shape. By analyzing preliminary data, Cocolab can establish expectations for audience responses, defining key performance indicators related to expected CPVP distribution, SOLO understandings, and perceived meaningfulness per target audience segment. For example, the team might predict that a specific target audience will score particularly high on dimensions such as SOLO Understanding. These benchmarks not only help guide further design decisions but especially provide a reference point for post-experience assessment, allowing for a more structured comparison between expectations and actual visitor responses during the Operation phase.

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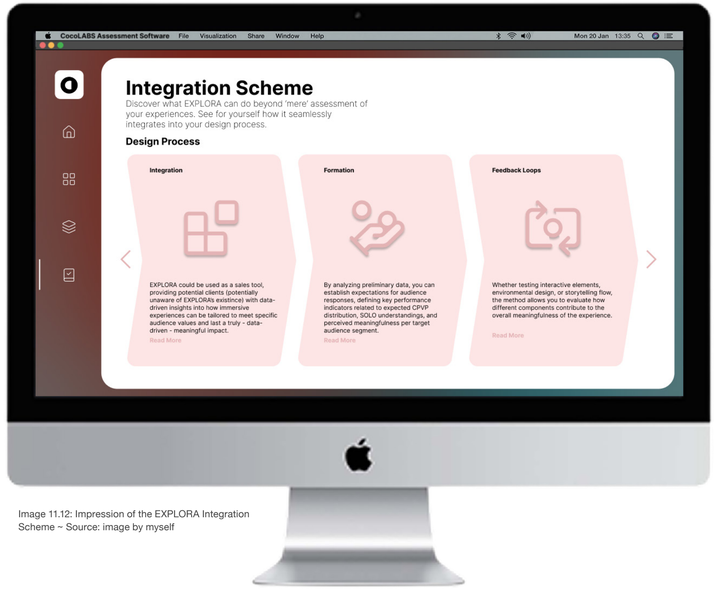

Image 11.12: Impression of the EXPLORA Integration Scheme ~ Source: image by myself

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11.8.3 Feedback Loops

As the Design and Implementation phases progress, EXPLORA can provide structured feedback loops during prototyping. Whether testing interactive elements, environmental design, or storytelling flow, the method allows Cocolab to evaluate how different components contribute to the overall meaningfulness of the experience. This iterative approach minimizes high creative risks by ensuring alignment with the expected CPVPs of its target audiences and ensures that the final design remains true to its intended impact

11.8.4 Conclusion

By integrating EXPLORA across all phases of the INSPIRE design process, Cocolab can transform assessment from a reactive, post-experience task into a proactive, data-driven framework for continuous improvement of its experiences, its design processes, its methods, and its sales strategies. From initial audience research and concept validation to iterative prototyping and final evaluation, EXPLORA ensures that immersive experiences are meaningfully sold, crafted, evaluated, and refined.

CHAPTER
12

AGAVE

Agave, a spiky plant native to Mexico, is central to the country's culture and economy. It's the key ingredient in tequila and mezcal, two iconic Mexican spirits, and has been used for centuries in traditional medicine, textiles, and ceremonies.

DISCUSSION AND CONCLUSION

In this chapter, we will answer the research questions posed at the beginning of our inquiry, and discuss the limitations and discussion, future recommendations, and conclusion of this graduation report.

12.1 Answers to Research Questions

In this section, we will briefly answer the research questions posed at the beginning of our inquiry.

Assessment Methods: What are the most effective frameworks for assessing the meaningfulness of experiences in a pre- and post- experience setting?

- The most effective framework for assessing meaningfulness in pre- and post-experience settings focuses assessing the two criteria for meaningful experiences posed by Duerden (2025). The SOLO Taxonomy helps evaluate insight generation, while Contextual Personal Value Profiles (CPVP) assess the personal relevance of those insights. Pre- and reflection sessions ensure mental readiness and deeper engagement.

The Company: Cocolab: What does one need to measure if one wants to understand the impact in terms of meaningfulness of Cocolab as a company on its visitors?

- To measure Cocolab's impact in terms of meaningfulness, one must assess the extent to which experiences generate insights and how well these insights connect to visitors' sources of meaning in life.

The Visitor: How does one include visitors collectively into the pre- and post-experience assessment of an experience?

- To include visitors collectively in pre- and post-experience assessments, a flexible yet structured assessment approach is necessary. EXPLORA achieves this through adaptable Building Blocks working in tandem with the Sandwich Assessment, ensuring engagement without disrupting the experience. Group-based pre- and reflection help integrate collective perspectives.

Experiences: How does one assess a great variety of immersive multimedia experiences while refraining from interference with the experience itself?

- To assess a wide variety of immersive multimedia experiences without interfering, the assessment method must be scalable, adaptable, and seamlessly integrated. EXPLORA ensures this through a consistent sequence of assessment while allowing customization based on experience type.

12.2 Limitations and Discussion

While this project achieved its primary goal - the creation of an adaptable and quantitative assessment method that allows Cocolab to assess the meaningfulness of their experiences, certain limitations must be acknowledged. One of the key challenges encountered was the balance between quantitative rigor and qualitative depth. While EXPLORA focuses on the former and thus allows for scalable and repeatable assessment at large scale, meaningfulness remains and inherently subjective topic, requiring qualitative insights to complement the numerical data. Future iterations of EXPLORA should explore the integration of hybrid methods - combining the structured surveys proposed by EXPLORA with open-ended reflection prompts or targeted interviews.

Another limitation is the reliance on self-reported data. While EXPLORA introduces strong objective scoring mechanisms via structured assessments, visitor responses are still subject to biases, emotional states, and contextual factors such as rain as we observed during our experiment at COCO En Concierto, that are currently being mitigated by the law of large numbers. Future research could explore the integration of biometric data, behavioral tracking, weather forecasting, or sentiment analysis to create a more holistic view of visitor experiences that acknowledges or accounts for these biases.

Additionally, the application of EXPLORA beyond Cocolab might raise questions about scalability and adaptability. While the method was tailored for Cocolab's unique context, its principles can be extended to other experience design firms, museums, theme parks, and even corporate brand experiences. However, adapting EXPLORA to diverse cultural and contextual settings will require further testing and refinements.

Also, in this study, we have assumed that meaningfulness in an experience arises from two key criteria: (1) the generation of insights and (2) the connection of those insights to sources of meaning in life based on Duerden's framework on Extraordinary Experiences (2025). To operationalize these criteria, we assessed the SOLO Taxonomy as a measure of cognitive depth (insight generation) and CPVP Fulfillment as an indicator of personal value alignment (connection to meaning). However, this approach raises an important question: Do these frameworks genuinely capture what we define as meaningfulness? The SOLO Taxonomy is a well-established framework for assessing depth of understanding, ranging from surface-level knowledge to deep, abstract comprehension. Within the context of an experience, we assume that a higher SOLO and Alignment score indicates that participants have engaged with the main theme of the experience in a meaningful way. However, two challenges emerge.

Just because a visitor reaches an extended abstract level of understanding does not necessarily mean that the insight was personally meaningful to them. Someone may grasp the intended message of an experience but remain emotionally indifferent to it.

While we measure SOLO Alignment as an indicator of whether visitors derived an insight that aligned with the intended main theme, alignment does not inherently indicate a presence of meaning. In some cases, meaningful experiences may lead visitors to form unique, deeply personal interpretations that diverge from the designed theme. Thus, a high alignment score might not always reflect a success in meaning-making but perhaps rather miss out on an alternate route toward meaningfulness.

The CPVP Fulfillment is based on the assumption that if an experience satisfies what a visitor values most (their Contextual Personal Value Profile), then the experience has successfully connected insights to sources of meaning in life. However, this approach has its own limitations:

- The four high-level value dimensions from Schwartz's framework (Openness to Change, Self-Transcendence, Conservation, and Self-Enhancement) are used to define CPVPs. However, do all of these value dimensions contribute equally to meaningfulness? It could be that Self-Transcendence is naturally more aligned with meaningful experiences than Self-Enhancement, raising questions about whether fulfillment across all dimensions should be weighted equally in measuring meaning.
- We have theoretically argued that CPVP Fulfillment, in the first place, can be used as a framework for measuring the connections made between generated insights and someone's sources of meaning in life, yet there is no empirical evidence (yet) to back this up.

In short, future research is needed to determine whether the SOLO Taxonomy and the CPVP Fulfillment reliably reflects the depth of meaning an experience holds for an individual.

Moreover, the assessment method relies on participant responses, but the sample size and demographic representation of assessed visitors may influence the results. It is important to note that we have suggested minimal sample sizes to be included per assessment attempt based on the total amount of visitors expected to come to an experience. However, if the sample is not diverse or large enough, findings may not generalize across different audiences, experiences, or cultural contexts. Additionally, some experiences - especially those with smaller visitor counts - may struggle to reach the necessary participant threshold for reliable data collection.

Lastly, the timing of when visitors complete the assessment may affect their responses. In line with the Sandwich sequence, participants are assessed immediately after an experience, where their emotions may still be heightened, leading to inflated meaningfulness scores. Conversely, if assessed too long after the experience, recall bias may distort their responses. The current approach attempts to balance this through structured pre- and post-experience assessments, but further investigation is needed into the optimal timing for evaluating meaningfulness, while ensuring feasibility.

12.3 Future Recommendations

Addressing these limitations presents opportunities for future research and iterations of EXPLORA, including:

- Empirical validation of the relationship between CPVP Fulfillment and meaning-making.
- Exploration of alternative or supplementary meaningfulness indicators, such as emotional impact, long-term recall, or behavioral changes.
- Refinement of CPVP scoring models, potentially introducing weighted CPVP dimensions based on their contribution to meaningfulness.
- Testing EXPLORA in different experience formats and industries to assess scalability and adaptability.
- Developing hybrid data collection approaches (combining quantitative and qualitative assessment methods) to maximize accessibility across diverse visitor demographics.

12.4 Conclusion

This project set out to develop a quantitative, structured, and adaptable method for assessing the meaningfulness of immersive multimedia experiences. Through extensive research, field studies, and iterative design, EXPLORA was created - a flexible assessment framework that allows experience designers, such as Cocolab, to evaluate whether and how their experiences contribute to visitors' perceived sense of meaning.

The research highlighted that meaningfulness in experiences is driven by two core criteria: the generation of insights through reflection and the connection of these insights to an individual's sources of meaning in life (Duerden, 2025). These insights formed the foundation for the assessment method, which integrates existing frameworks like Schwartz's Value Theory (1992), the SOLO Taxonomy (XXXX), and Martela & Steger's model of meaning in life (2016). The EXPLORA framework operationalizes these concepts, in turn making these two criteria measurable and applicable in real-world settings.

In more practical terms, EXPLORA provides a systematic pre- and post-experience assessment method that not only quantifies meaningfulness but also informs future experience design. It builds on existing touchpoints within the customer journey, and strategically implements 15 Building Blocks in a on-site sandwich sequence to assess the meaningfulness of an experience. Here, the focus lies on assessing the CPVP and CPVP Fulfillment, and the SOLO Understanding of a visitor by guiding them through collective preflection and reflection. Through the use of a Suggestive Composition Manual working in tandem with the Flexible Components of each Building Block, the method remains adaptable to the great variety of immersive multimedia experiences. The integration into Cocolab's INSPIRE design cycle illustrates how assessment can move beyond evaluation and contribute to the iterative improvement of experiences. By embedding EXPLORA at multiple points within the design process, companies like Cocolab can ensure that their experiences are more aligned with audience expectations and values, thus maximizing engagement and impact.

Ultimately, this project contributes to the field of experience design research by offering a new and structured approach to assessing immersive multimedia experiences' meaningfulness through their emotional and cognitive impact. In doing so, it not only benefits Cocolab but also has broader implications for the entertainment and leisure industry, where experience evaluation - particularly with respect to the meaningfulness of experiences - remains an underdeveloped area.

CHAPTER
13

MARIACHI

Mariachi is a vibrant symbol of Mexican culture, embodying tradition, identity, and pride. Its music tells stories of love, struggle, and joy, connecting generations and uniting communities through its heartfelt melodies and spirit.

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CHAPTER
15

AHUACATL

The avocado, native to Mexico, is a staple in Mexican cuisine, known for its rich, creamy texture. It has been cultivated since Aztec times, symbolizing fertility and abundance, and is essential in dishes like guacamole.

APPENDICES

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14.1 Appendices

The appendices to this report can be downloaded separately from the TU Delft Repository. You can access the repository via:

- https://repository.tudelft.nl/

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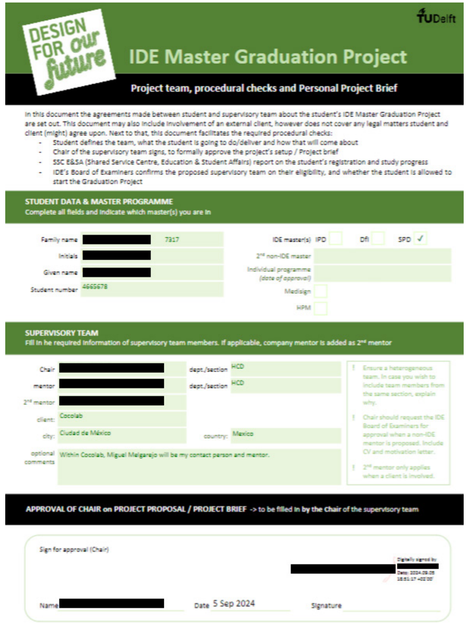
14.2 Project Brief



DESIGN FOR our future

TU Delft

IDE Master Graduation Project

Project team, procedural checks and Personal Project Brief

In this document the agreements made between student and supervisory team about the student's IDE Master Graduation Project are set out. This document may also include involvement of an external client, however does not cover any legal matters student and client (might) agree upon. Next to that, this document facilitates the required procedural checks:
- Student defines the team, what the student is going to do/deliver and how that will come about
- Chair of the supervisory team signs, to formally approve the project's setup / Project brief
- SSC E&SA (Shared Service Centre, Education & Student Affairs) report on the student's registration and study progress
- IDE's Board of Examiners confirms the proposed supervisory team on their eligibility, and whether the student is allowed to start the Graduation Project

STUDENT DATA & MASTER PROGRAMME
Complete all fields and indicate which master(s) you are in

Family name [redacted] 7917
Initials [redacted]
Given name [redacted]
Student number 4665678

IDE master(s): IPD | Dfl | SPD ✓
2nd non-IDE master
Individual programme (date of approval)
Medisign
HPM

SUPERVISORY TEAM
Fill in he required information of supervisory team members. If applicable, company mentor is added as 2nd mentor

Chair [redacted] dept./section HCD
mentor [redacted] dept./section HCD
2nd mentor [redacted]
client: Cocolab
city: Ciudad de México country: Mexico
optional comments: Within Cocolab, Miguel Melgarejo will be my contact person and mentor.

! Ensure a heterogeneous team. In case you wish to include team members from the same section, explain why.
! Chair should request the IDE Board of Examiners for approval when a non-IDE mentor is proposed. Include CV and motivation letter.
! 2nd mentor only applies when a client is involved.

APPROVAL OF CHAIR on PROJECT PROPOSAL / PROJECT BRIEF -> to be filled in by the Chair of the supervisory team

Sign for approval (Chair)
Digitally signed by [redacted] Date: 2024.09.09 18:01:37 +02'00'
Name [redacted] Date 5 Sep 2024 Signature

CHECK ON STUDY PROGRESS
To be filled in by SSC E&SA (Shared Service Centre, Education & Student Affairs), after approval of the project brief by the chair. The study progress will be checked for a 2nd time just before the green light meeting.

Master electives no. of EC accumulated in total ____ EC
Of which, taking conditional requirements into account, can be part of the exam programme ____ EC

★	YES	all 1st year master courses passed
	NO	missing 1st year courses

Comments:

Sign for approval (SSC E&SA)
[redacted] 2024.09.10 09:43:21 +02'00'
Name [redacted] Date 10 Sep 2024 Signature

APPROVAL OF BOARD OF EXAMINERS IDE on SUPERVISORY TEAM -> to be checked and filled in by IDE's Board of Examiners

Does the composition of the Supervisory Team comply with regulations?

YES	★	Supervisory Team approved
NO		Supervisory Team not approved

Comments:

Based on study progress, students is ...

★	ALLOWED to start the graduation project
	NOT allowed to start the graduation project

Comments:

Sign for approval (BoEx)
[redacted] Digitally signed by [redacted] Date: 2024.09.25 09:39:12 +02'00'
Name [redacted] Date 25 Sep 2024 Signature

TU Delft

Cocolab