


Empowering design literacy: a toolkit for promoting the design of positive experiences through rules of thumb

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Abstract

This paper presents a toolkit of heuristics for enabling non-professionals to design for wellbeing, merging design, psychology, and ergonomics. It demystifies design, focusing on happiness and long-term wellbeing, making design principles accessible to all. This toolkit narrows the divide between design theory and practice, advocating design as a tool to enhance life for individuals and society.

Keywords: design literacy, aesthetics, heuristics, design for x (DfX)

1. Introduction

In the interest of a society oriented towards the common good, it makes sense to enable people to design things, products, spaces, services and information (referred to below as artefacts for the sake of simplicity) with which we interact as humans and beyond in such a way that they lead to positive experiences and happiness. This is because everyone (including those who do not belong to the design disciplines) directly or indirectly designs artefacts and experiences for others or themselves on a daily basis. Consequently, everyone is a designer; the only question is whether this capacity is actively or passively perceived and consciously or unconsciously. This is precisely where the contribution comes in and works out guidelines, rules of thumb, recommendations for action and heuristics for the communication of design knowledge for the design of artefacts with high value for general well-being. Thus, this contribution seeks to equip esp. those with limited design backgrounds, with a nuanced comprehension of human psychological needs and practical emotional design principles, in order to contribute to a positive development of society in well-being. Thus this contribution presents a combination of design and perceptual psychology to create a "design literacy" for aesthetically pleasing and emotionally enriching user experiences based on rules of thumb (referred as heuristics in the following). The discipline of design, with the help of influences from psychology, user-centeredness and ergonomics (all of which are also partial aspects of a holistic product gestalt - all this used here in the term "Integrated Gestalt"¹). In this understanding it offers the appropriate approaches both with regard to human perception and the pleasure of use as well as with regard to long-term "wellbeing" oriented Gestalt. A proposal is developed to equip also non-designers with heuristics to better design

¹ In this contribution, the term "Integrated Gestalt" encompasses a comprehensive approach to design, integrating aesthetics, functionality, and user experience. Derived from the term "Gestalt," form gestalt theory which has been adopted into English, "Gestalt" here is used in an expanded context, signifying not just the physical form but also the encompassing design process that addresses aesthetic, functional, and emotional aspects, emphasizing well-being, personal significance, attachment, and moral virtue.

artefacts for the benefit of all. From practical observations in teaching on the interdisciplinary master's programme in Integrated Design Engineering (IDE) (Vajna 2020), it can be concluded that teaching design based on the inclusion of perceptual needs is suitable for imparting knowledge to people who are less artistically inclined. Heckert et al. also teach aesthetic principles that help to orientate design towards people and their needs to design for wellbeing (Heckert 2006) at TU Delft. Psychologist Sonja Lyubomirsky of Riverside University in California defines well-being as the experience of joy and satisfaction associated with a sense of living a good, meaningful and rewarding life. Genetically speaking, 50 % of the differences in well-being between people are hereditary, while 10 % can be attributed to external life circumstances (Lyubomirsky et al. 2005). The remaining 40% is determined by activities; if these are satisfying and meaningful, our wellbeing increases. Sustained Wellbeing aims to maximise wellbeing by positively influencing daily routines through the design of activities (Wiese et al. 2020). In order to derive heuristics, it is essential to familiarise oneself with the underlying building blocks of an aesthetic, functional and consistent design and a satisfying user experience. Therefore, an insight into Garretts design levels (2002) is provided, accompanied by the three levels of emotional design as a suitable framework for design for wellbeing. These levels, as defined by Norman (2004), are the visceral level (immediate experience), the behavioural level (use-related experience), and the reflective level (reflected exp.). In order to promote the well-being of the user or/and society through designed artefacts and to minimise the confusion caused by mis-design or/and unconscious artefact design during perception, it is beneficial for large parts of society to develop design skills at both the upper and lower levels of the Garret/Norman approach (Figure 1) and to understand how these three levels influence emotional processing. These levels are arranged from concrete to abstract, and each has an influence on the achievement of a positive user experience and design for long-term well-being.

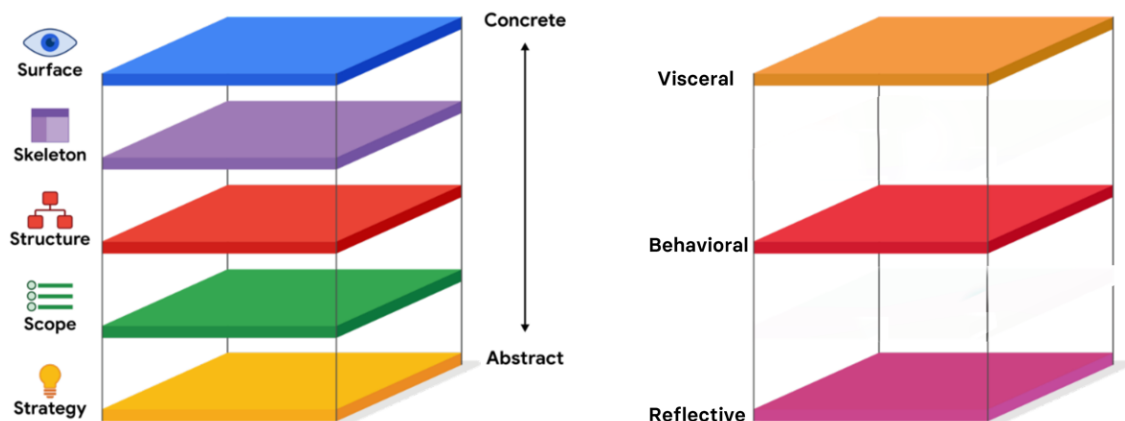


Figure 1. Left side: Elements of design according to Garrett (2002) shown by Chaurasia (2021); Right side: The 3 Levels of Emotional Processing by Norman (2004)

The upper levels in Figure 1 have a greater influence on the immediate, visceral positive or negative experience of an artefact, while the lower levels can influence long-term and reflected wellbeing. Understanding the levels of perception thus forms the basis for more holistic designs and helps designers to provide the heuristics to design any design task in a way that is satisfactory for people and their perceptual, emotional, visceral and behavioural needs.

Structure of this contribution

For this purpose, the three levels of emotional design introduced above are discussed in detail below and underpinned with literature in order to crystallise heuristics from these. This is followed by a table summarising the identified heuristics to provide an overview and derive guidelines for designers around the world. This serves to create a "design literacy" for aesthetically pleasing and emotionally enriching perception and user experiences, based on product design and perceptual psychology. The aim is to create through the upcoming heuristics a positive, aesthetically pleasing and emotionally enriching user experiences through perception-centred design.

2. Theoretical foundations for design for well-being

The selection of literature for the theoretical foundations was conducted through a structured search process, including a clear definition of inclusion and exclusion criteria. It has been particularly focused on works dealing with visceral, behavioural, and reflective well-being qualities to ensure a broad theoretical base and incorporate the whole perception experience, interaction with the product and the following reflection process.

Inclusion criteria: Studies at design and well-being intersection; Discussions on aesthetic design principles; Research on design's psychological impacts; Evidence-based critiques on design for positive experiences.
Exclusion criteria: Non-design specific literature; Outdated references; Narrowly focused articles

2.1. Visceral wellbeing quality (perception centered design)

[Kremer and Lindemann \(2015\)](#) describe the visceral category in their meta-analysis as experiences that are primarily driven by the sensory perception of an object, where external characteristics play a crucial role in creating a successful product that appeals to the user's gut feeling through a strong first impression, including visual, tactile, and auditory sensations, while noting that other senses have been unexplored in product development despite their significant potential for enhancing user experience (UX). To derive heuristics based on the different levels of perception and cognition, the levels of the perception model by [Leder et al. \(2004\)](#) is presented in more detail in the following. Leder et al. divide the perception of artefacts into five levels (here simplified presented as four levels), which in some cases are separated from each other in time but also run synchronously during the perception process. Design recommendations from the literature within the above mentioned inclusion and exclusion criteria are integrated into these levels of perception from [Leder et al \(2004\)](#):

1. **organisation of perception:**

The brain attempts to generate a purposeful perception of the sensory information it receives ([Leder et al. 2004](#)). Some gestalt properties (such as symmetry) make this organisation more fluid, i.e. easier ([Reber et al. 2004](#)). The principle of "unity-in-diversity" according to [Post et al. \(2013\)](#) states that designs that maintain unity in as much diversity as is justifiable are the most aesthetically pleasing.

2. **implicit memory integration:**

The identification process leverages known and typical features as outlined by [Leder et al. \(2004\)](#) where an object like a rocking chair can be recognized by its familiar form elements such as the backrest, seat, legs, and runners. This familiarity, combined with novel aspects of design, taps into implicit preprocessing, enhancing aesthetic pleasure through the blend of typicality and innovation, as suggested by [Hekkert et al. \(2003\)](#).

3. **transition between subconscious and conscious perception:**

Transitioning from subconscious to conscious perception involves triggering a subconscious decision-making process regarding the content's need for cognition, as elucidated by [Graf and Landwehr \(2015\)](#). If the content is familiar, fluent processable, conscious attention is unlikely to occur. A slight disfluency helps increase the chance of conscious attention. Well-being can arise both in the intentional disengagement of conscious cognitive processes or in purposely chosen stimuli that trigger cognitive processes and later dissolve into aesthetic liking ([Graf and Landwehr 2015](#)). Conscious processing requires significantly more energy and effort, hence we should invoke this state thoughtfully and only where it truly adds value or meaning.

4. **explicit classification and mastering:**

To interpret the already pre-processed content, the elements must be classified into mental categories. If this is not possible on the basis of existing experiences, it can lead to negative experiences. The final phase of perception involves understanding the meaning of the object. If a disfluency can be resolved, it can result in an "aesthetic AHA" - bringing joy and reward ([Graf and Landwehr 2015](#); [Leder et al. 2004](#)). Resolved hypotheses about affordances can lead to the experience of competence (Hassenzahl). Resolved hypotheses about correspondences to the self-concept and correspondences with positive memories can lead to long-lasting positive feelings which is also part of the reflective wellbeing quality.

Conclusion

Achieving a visceral wellbeing quality requires attention to the following key components:

- The gestalt should be structured in such a way that it is easy for the brain to generate a purposeful perception. This can be done by maintaining unity in diversity.
- The content should both be typical and fascinatingly novel but not too overwhelming new (MAYA by [Raymond Loewy \(1951\)](#) being an acronym for Most Advanced Yet Acceptable ([Hekkert et al. 2003](#)).
- The content should be clearly interpretable subconsciously (for most of the content), so that there is a conscious relief from cognitive processes. Only if the content is important enough, a slight disfluency may be used to create a transition from subconscious to conscious perception, taking care that this does not lead to disappointment.
- In the optimal scenario, the experience of an "aesthetic AHA" moment takes place, where affordances or a harmonious alignment with the self-concept is achieved. This encompasses the joy of acquiring new insights, clarity in interaction qualities, and relevance to oneself. The resolution of hypotheses regarding alignment with the self-concept holds significant value for eliciting positive emotions. This is because an artifact, product, or service can thus serve as a reflection of one's personal identity.
- The design should appeal to different senses in congruity, such as sight, hearing, touch, smell and taste, because a multisensory design leads to longer enjoyment ([Barden 2013](#)).

2.2. Behavioural wellbeing quality - activities for happiness and wellbeing

Behavioural-emotional quality comes from a user experience that facilitates positive affect and emotion through fulfilling activities that make users feel smart and safe, all in the most comfortable and enjoyable way possible ([Hassenzahl et al. 2010](#); [Desmet, & and Pohlmeier 2013](#)), leading to increased well-being. By participating in activities that are enjoyable and fulfilling, users can experience pleasure, flow and a sense of accomplishment and competence. In addition, aesthetically pleasing physical experiences can also contribute to increased well-being ([Hassenzahl et al. 2010](#)). Finally, feeling safe and alive while engaging in activities can be an important aspect of a user's overall experience. By incorporating these principles into the user experience, it is possible to create positive experience and wellbeing for users. To achieve a user experience that evokes meaning and positive affect and emotion, according to [Nurkka et al 2009](#) the scope must be transformed into a conceptual structure that addresses the needs of the user by understanding the underlying influential factors of user experience ([Nurkka et al. 2009](#)). Here, [Kremers and Lindemanns UX-Framework \(2015\)](#) and Hassenzahl's needs (2008) are worth mentioning. Both identify the following basic human needs: 1. Connectedness/Relatedness, 2. Security, 3. Competence, 4. Popularity, 5. Stimulation, 6. Autonomy, 7. Meaningfulness. Hassenzahl (2008) demonstrated in a small study on positive experiences with technology a clear connection between basic needs for autonomy, competence, and connectedness (self-determination theory ([Ryan and Deci 2000](#))) and positive emotions. A mobile phone, e.g., makes independent, connects with loved ones, demonstrates style or can save lives. It is the corresponding experiences that make an artefact seem meaningful, make it attractive and create attachment. Furthermore, it should be made understandable that one must change from an artefact-oriented evaluation of interactive products to an experience-oriented evaluation. This is necessary due to the perception of the artefact through the human follows a complex process which gather in one holistic perception – thus the perception follows the rules of oversummativity ([Sabar 2013](#)). This is why the artefact in this regard should be reviewed as whole and integrated Gestalt and not become evaluated through single product attributes. Heuristics that focus on the emotional experience as a consequence of product use (e.g. Generic generative design systems to imprint personalities in consumer products by [Desmet \(2003\)](#)) rather than on the products themselves are an important step here.

Conclusion

In conclusion, it is emphasized that the pivotal role of user experience in fostering behavioural-emotional quality, underscoring the significance of positive affect and emotion through activities that

are both *fulfilling* and *enjoyable*. This experience is enhanced by design elements that promote a sense of flow, accomplishment, and competence. The integration of Hassenzahl's principles—*connectedness, security, competence, popularity, stimulation, autonomy, and meaningfulness*—is crucial in creating an experience that resonates deeply with users. For instance, designing for connectedness involves fitting the product into the symbolic and aesthetic needs of the user, while ensuring security guides the user during initial interactions. Similarly, fostering competence means creating an intuitive learning environment, and popularity can be achieved by incorporating iconic symbols into the product design. Stimulating the user also includes the inclusion of subtle details that invite exploration, and autonomy is promoted by the fact that the user can use and even repair the artefact independently. Meaningfulness is given when the product contributes to *fulfil a significant purpose*. By focusing on these aspects, an experience-oriented evaluation transcends traditional product-oriented assessments, considering the artefact as a holistic entity rather than a sum of its parts. This approach, emphasizing the emotional experience and the overarching impact of product use, is a vital step towards creating a user experience that not only meets basic needs but also engenders a profound sense of wellbeing and attachment. This kind of attachment leads us to the reflective emotional quality.

2.3. Reflective wellbeing quality - reflected experience, moral virtue, and attachment

Through human-centred design, it is possible to create experiences that enable wellbeing through reflected experiences. [Kremer and Lindemann \(2015\)](#) define the reflective criterion as the user's interpretation and assessment of product interaction, extending beyond the immediate interaction to include experiences before, during, and after engaging with a technical system, thereby linking past and present through fulfilled expectations, memories, and learned competences, enhancing present interactions with feelings of comfort and communication, and projecting future implications on the user's identity and values through symbolic meanings and expressions. The recommendation to promote reflected experiences through design is supported by several authors such as ([Bagnara and Pozzi 2012](#); [Klapperich et al. 2019](#)), showing how such design approaches can effectively improve well-being. This can be achieved by choosing appropriate strategies and the right framework for the artefact and focusing on delivering *supersumative* benefits to the prospective user by satisfying their intrinsic needs. Considering Garrett's levels, extensive user research must be conducted to identify the core needs and emotional needs of prospective users of an artefact and, as a result, align the design of the artefact with their needs, their self concepts, their attitudes and dreams. Meaningful interactions, self-expression and social symbolic meaning play a crucial role in the development of artefacts with a focus on the retrospective emotional quality of the user experience. This can lead to more fulfilling experiences and greater long-term positive emotional impact. The goal, for instance, could be to support feelings of moral virtue, popularity, significance, nostalgia, and self-expression. At this point, the boundaries are clearly blurred, and it is no longer possible to clearly differentiate between the aesthetic and symbolic functions of an artefact.

According to Hassenzahl, in order to achieve an emotional quality reflected by the user, the inner needs, for example Autonomy and Connectedness, must already be considered in the strategic orientation, during the development and definition of the artefact ([Diefenbach and Hassenzahl 2017](#)). In addition to these needs defined by Hassenzahl, this article will supplement them with the help of Desmet's Design for Virtue ([Desmet, & and Pohlmeier 2013](#)). This is an important strategy for achieving a reflected emotional quality. In the context of emotional design, the focus is on eudaemonic² attributes, which are about giving users meaning and self-realisation, and of course hedonic attributes. For example, a famous design by Phillippe Stark that has almost no pragmatic function is considered a hedonic product. Another example is an artefact or service that has no practical use but fulfils needs of self-expression, such as connecting with other people, like the windmill on the right of Figure 2.

² in a broader sense, the theory that the goal of all human action lies in eudaimonia - happiness. [Eudämonismus 2018](#); [Lelkes 2018](#).

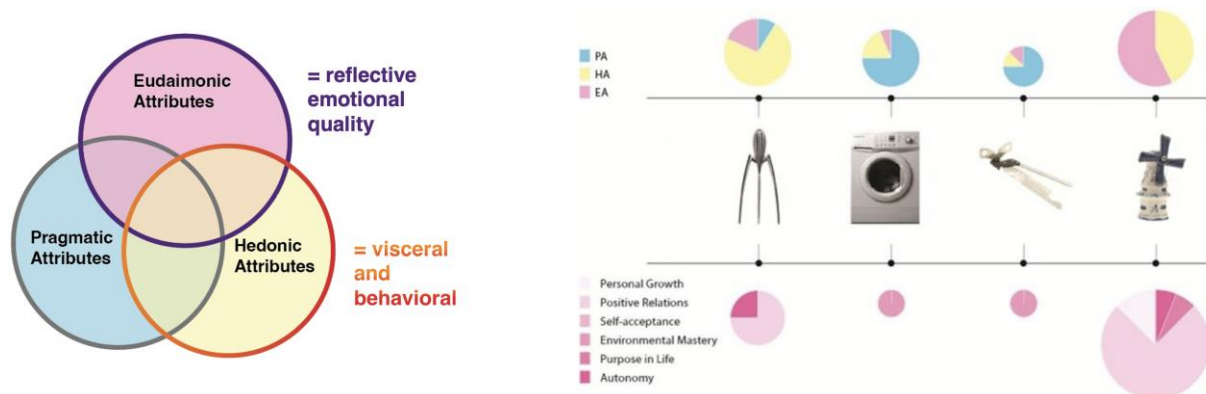


Figure 2. Left side: Visualization of artefact attributes combined including the emotional levels by (Norman 2005); Right side: Example of product happiness factors and profiles (DIOPD 2013)

By considering the inner needs of users according to Hassenzahl, as well as the design for virtue strategy and the design for personal significance proposed by Desmet and Pohlmeier (2013), it is possible to achieve a reflected emotional quality and more satisfying user experiences.



Figure 3. Positive design framework (Desmet, & and Pohlmeier 2013)

The three cornerstones in Figure 3 represent positive design ingredients by Desmet and Pohlmeier (2013): *design for pleasure*, *design for personal significance*, and *design for virtue*. Each ingredient independently stimulates subjective well-being; positive design sits in the “sweet spot” where all three ingredients intersect (Desmet and Pohlmeier 2013). This intersection is where people flourish. In the aristotelian tradition, flourishing is referred to as optimal human functioning and living to one’s full potential (Ryan and Deci, 2001). By understanding the individual needs of users, designers can be better equipped to create artefacts that support an individual’s self-expression, connectedness, virtuousness, and autonomy, and promote a greater level of user well-being. Throughout all levels, this strategy must have an impact on all levels of design. For example, the scope should be defined based on this definition and should include the required content, features and functions to achieve these inner needs. This helps to identify potential difficulties at an early stage. The core of a design that focuses on reflected emotional quality is, of course, to integrally involve users and stakeholders. In addition, the focus should be on enabling users to express themselves and feel connected to others, as well as promoting moral virtues and autonomy. This should be done in a way that has positive long-term emotional impact. Thus, everything that we design in our product so that the user can rightly feel good about it has at the same time a positive impact on the well-being of the user. So, designing sustainable products has a double benefit if the sustainability benefits can also be experienced.

Conclusion

Integrating meaningful interactions, self-expression, and social-symbolic significance is crucial for an integrated gestalt of artefacts aimed at enhancing retrospective emotional quality in user experience. This approach leads to more fulfilling and positively impactful experiences. The research underlines the blend of aesthetic and symbolic functions in artefacts, advocating for a design approach that melds aesthetic, pragmatic, and symbolic aspects. Achieving user-reflected emotional quality involves addressing users' inner needs, as identified by Hassenzahl, and incorporating Desmet's Design for Virtue. This strategy, combined with eudemonic attributes that provide purpose and self-realization, and hedonic attributes, as seen in Philippe Starck's designs, enhances user experience. Desmet and

Pohlmeyer's 'design for personal significance' concept is also pivotal, focusing on artefacts that allow for self-expression and connectivity. Desmet and Pohlmeyer's design ingredients—pleasure, personal significance, and virtue—create a flourishing environment for users, resonating with the Aristotelian concept of optimal human functioning. Understanding individual needs is key for designers to develop artefacts that support self-expression, connectedness, virtuousness, and autonomy, thus boosting user well-being. By fostering self-expression, connection, virtue, and autonomy, and ensuring these have a lasting emotional impact, the design offers dual benefits. It addresses immediate user needs and contributes to long-term well-being, making sustainable product design beneficial for both user satisfaction and overall well-being.

3. Findings and suggestions

3.1. Derivation of heuristics

Based on the previously discussed concepts and their integration, the heuristics for designers outside the specialized field are summarized in Table 1. Table 1 distils key heuristics into Visceral, behavioural, and Reflective categories, offering a straightforward guide that aids even design novices and those outside the field in creating user-centric, emotionally resonant products. While it is possible to conceive of additional mixed categories, for simplicity, they are not further developed here. This categorization aids in providing a structured approach to design that aligns with the emotional and experiential needs of users, encompassing the spectrum from instinctual reactions to deep reflective experiences.

Table 1. Heuristics for a design literacy for an integrated gestalt approach

Category + Aesthetic Principle	Perception Level	Applicable Activities	Literature
Visceral: Unity in diversity	Organization of perception	Incorporating symmetrical or rhythmical elements and/or elements with similar proportions, repeating shapes or motifs and/ or consistent colour scheme in design	Hekkert, Post 2016
Visceral: Simplicity in Complexity	Organization of perception	Design with simplicity amidst complexity, by evaluating for each design element its necessity and removing anything unnecessary to design everything as simple as possible, but no simpler. Employ organization by using the laws of gestalt as well as simplification, and standardization of elements. Aim for an optimal balance between monotony and chaos, achieving artistic appeal through controlled complexity.	Ellis 1993, (Berlyne 1971)
Visceral: Congruity in multisensory experiences	Organization of perception and Implicit Memory Integration	Strive for a congruent and cohesive multisensory design , in terms of aesthetics and product semantics for more impactful and immersive user interactions, by matching all the various sensory stimuli in a way that they have similar associations, similar aesthetic pleasure and congruent prioritization of gestalt elements and all contribute to an united concept of gestalt and thereby a congruent experience.	(Bregman et al. 2022); (Krishna 2010)
Visceral: Most advanced yet acceptable	Implicit Memory Integration	Balance novelty with familiarity in your designs. Aim for an optimal mix of it. Enable Implicit identification or differentiation of objects with respect to familiar and typical features. For example, let proband draw a typical product out of the product category and the key elements that are in every drawing should not be changed without a good reason. All other areas can be part of a well-balanced novel design.	(Loewy 1951), Hekkert (2003)
Visceral and Behavioural: Aesthetic Pleasure or	Transition between subconscious and conscious perception	For each design element, determine whether it should solely inspire implicit (unconscious) aesthetic pleasure or stimulate a shift from subconscious to conscious awareness (aesthetic interest) through a minor degree of disfluency. Contrary to mere aesthetic pleasure, aim for the majority of your content	(Graf and Landwehr 2017)

Category + Aesthetic Principle	Perception Level	Applicable Activities	Literature
Aesthetic Interest.		to be effortlessly understood on a subconscious level by crafting it with fluidity in mind.	
Behavioural: Fulfilment in enjoyable and meaningful activities	Behavioural-emotional quality	When designing your artefacts, prioritize enjoyable and fulfilling experiences. Incorporate elements that empower users physically and enhance their sense of competence. Additionally, create moments that enrich their sense of purpose and significance. Avoid discomfort and include enjoyable interactions, such as neat animations or friendly feedback mechanisms showcasing personal achievements.	(Hassenzahl et al. 2010)
Behavioural: Resolvable disfluencies in affordances	Implicit preprocessing and Explicit classification and mastering	Leverage the principles of visibility (interface clarity), affordance (usage cues), mapping (control-effect relationship), and feedback (action confirmation) to present product functions clearly and understandably, enhancing user competence and preventing misinterpretations, necessitating user research and iterative prototype testing to refine elements like icons and buttons.	(Graf and Landwehr 2015; Gaver 1991)
Behavioural: Balanced challenge and perceived skill (Flow experience)	Implicit preprocessing and Explicit classification and mastering	Design with an eye for the process, not just the product. For designing flow, balance challenge with skills, set clear goals, and ensure immediate feedback. Foster a seamless integration of action and awareness, ensure the user's ability to focus, and provide them control over task outcomes. Encourage experiences where self-consciousness fades, time perception changes, and the activity becomes intrinsically rewarding. Streamline user actions, eliminate hesitation and distraction. Prioritize immediate, clear feedback. Balance the perceived challenge with high perceived skill.	(Csikszentmihalyi and Halton 1981), (Dekay 2012)
Reflective: Perceptible insights in enhancing aesthetic appreciation	Explicit classification, mastering and reflection	Incorporating original and creative ideas into a gestalt is valuable. This holds true especially when the ingenuity behind the solution or creative concept becomes evident after thoughtful consideration. Initially disfluent content, which can be mastered can lead to moments of 'Aesthetic Aha.' These insights intensify appreciation and create deeper connections with the design.	(Muth and Carbon 2013; Graf and Landwehr 2017); Muth (2013, 2019)
Reflective: Autonomous-yet-connected (Design for Personal Significance)	Explicit classification, mastering and reflection	Design for Congruity with the self-concept through informed user research as well as design for being connected with people in peer groups by symbolic meaning. Capturing relevant symbolic meaning in user research what the target group thinks others would expect and makes them popular as well as autonomous. Designing for connectedness, popularity, autonomy, and meaningfulness	(Berghman and Hekkert 2017), (Hassenzahl et al. 2010)
Reflective: Design for Virtue	Explicit classification, mastering and reflection	Design with integrity and ethical purpose. Consider not just the sensory appeal, but also the moral and ethical impact of your work. Strive for designs that embody virtue in both form and function.	(Desmet, and Pohlmeier 2013)
Reflective: Aesthetic reflection by detachment	Explicit classification, mastering and reflection	Design for pauses, creating intentional breaks for contemplation. Design for detachment, enabling users to step back and gain perspective. Design for serendipity, encouraging unexpected discoveries and insights.	(Bagnara and Pozzi 2012)

Visceral heuristics emphasize balancing diversity with simplicity and integrating novelty with familiarity, while behavioural heuristics focus on fostering fulfilling activities and fluid user experiences. Reflective

heuristics encourage deeper engagement through perceptual insights and ethical design, collectively enhancing user well-being and providing a comprehensive toolkit for effective and empathetic design.

3.2. Heuristic model, toolkit, planned validation and conceivable future steps

The long-term objective of this work is to empower users to make informed design decisions by leveraging these rules of thumb within a supportive, web-based toolkit. Ideal for design newcomers and professionals outside the field, this toolkit will be introduced at the conference, serving as a dynamic and accessible resource for practical design application for integrated Gestalt. This objective includes creating a decision support system that not only offers to compare design options but also provides benchmark values from previous analyses in the same product field and lastly also integrates a theoretical basis to craft better prompts for generative AI content. To reach these objectives, the toolkit will incorporate features like learning modules, a database of design principles and case studies, and a user-friendly interface for comparing design options. To validate this hypothesis, the plan involves testing of the heuristics within real-world design scenarios. The toolkit also will become tested and implemented into projects with students - as a proposal of usable tools within there already existing variety of engineering tools.

4. Summary and outlook

This paper focuses primarily on deriving heuristics to develop a toolkit to promote design literacy. The goal is to create positive experiences for all by all through rules of thumb. By integrating aesthetic principles, psychological insights and user-centred design methods, the paper offers a comprehensive approach to effectively designing artifacts with well-being in mind. It emphasizes the importance of incorporating visual, behavioural and reflective wellbeing qualities, supported by thorough user research, to ensure meaningful interactions and fulfilling experiences. Strategies to promote self-expression, connection with others, the practice of moral virtues and autonomy are discussed as key components for sustained positive emotional effects. The goal is to establish design literacy as a critical skill for all to design experiences that promote well-being for all.

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