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Hedonomic Pyramid to enhance Student Experience in Higher Education: A conceptual framework

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Abstract

This paper introduces the Hedonomic Pyramid as a conceptual framework for enhancing the Student Experience (SX) in Higher Education (HE). Based on Maslow's hierarchy of needs, it structures SX into five hierarchical levels: Safety and Accessibility, Functionality and Usability, Engagement and Connection, Personalization and Development, and Satisfaction and Fulfillment. Each level integrates personal, social, academic, institutional, and external dimensions that influence students' perceptions and outcomes. The framework was developed through a theoretical analysis and refined with insights from a focus group involving six master's students, who discussed key barriers and enablers in their academic journey. The Hedonomic Pyramid offers a comprehensive, student-centered perspective for understanding and addressing the complex, multidimensional nature of SX. It serves as a foundation for institutions seeking to foster more inclusive, motivating, and meaningful educational environments aligned with students' evolving needs and expectation.

Keywords: *Student Experience (SX); Higher Education (HE); Hedonomic pyramid; educational framework; hierarchy of needs; student satisfaction*

1. Introduction

In the dynamic landscape of higher education (HE), enhancing the student experience (SX) has become a priority. SX encompasses the full range of experiences students undergo throughout their academic journey, from individual course quality to broader interactions with university life (Baik & Kahu, 2023). These experiences are shaped by diverse factors, including teaching quality, clarity of instruction, and satisfaction with educational outcomes. Broadly, SX reflects both academic and non-academic dimensions, capturing the holistic nature of a student's time at university.

The concept of SX shares foundational principles with User Experience (UX), defined by the ISO 9241-210 (2019) as the "perceptions and responses of a person resulting from the use or anticipated use of a product, system, or service". UX encompasses emotions, beliefs, behaviours, and achievements at various stages of interaction, forming an episodic narrative as described by Hassenzahl (2010). Applied to education, SX becomes a dynamic interplay between students and their environments—faculty, peers, learning materials, and infrastructure—that impacts not only academic success but also emotional and social well-being. In HE, SX spans application to post-graduation, influenced by academic, social, emotional, and administrative interactions. As Baik & Larcombe (2023) noted, the marketization of HE has redefined students as consumers, emphasizing not only the quality of education but also the value and services institutions provide.

According to Matus et al. (2021) the SX can be understood through several dimensions, each contributing uniquely to the holistic educational journey of a student: (i) personal dimension includes individual student characteristics, considering the needs and personal development, encompassing factors that affect their motivation, well-being, and personal growth within the university environment; (ii) the social dimension includes extracurricular activities, peer interactions, and the overall sense of community and belonging that students experience at the university; (iii) the academic dimension involves direct interactions with the academic content and teaching staff, engagement with the curriculum, and the intellectual growth opportunities available to students. The academic dimension is central to SX as it directly relates to the core educational outcomes and learning experiences. To finish, (iv) the institutional dimension includes Structural support, including health services, counselling, and administrative efficiency.

Understanding these dimensions requires a deeper exploration of human needs and motivations. Maslow's Hierarchy of Needs identified a progression from basic physical needs to self-actualization, emphasizing the necessity of addressing foundational needs like safety before higher goals can be achieved (Maslow, 1943). In HE, this perspective underscores the importance of creating environments that allow students to thrive both academically and personally. The Hedonomic Pyramid, developed by Hancock et al. (2005), builds on Maslow's framework by applying it to technology and UX, structuring interactions into functional, efficient, and satisfying experiences. In HE, this model provides a roadmap for designing learning environments that meet basic needs while promoting emotional and intellectual fulfilment.

This paper explores how the Hedonomic Pyramid can be adapted to HE, addressing the complexities of the SX. Originally developed for user interactions with technology, the pyramid's focus on functionality, efficiency, and satisfaction aligns well with students' academic, social, and personal needs. SX extends beyond academics to include emotional well-

being, social integration, and personal growth. Adapting the pyramid helps institutions address these layered needs, from ensuring safety and usability to fostering motivation and fulfilment.

2. Research method

This study followed a two-phase methodological approach combining theoretical analysis and exploratory qualitative research to adapt the Hedonomic Pyramid to the context of HE.

In the first phase, a theoretical framework was developed through an extensive review of literature on Maslow's hierarchy of needs (1943), the Hedonomic Pyramid by Hancock et al. (2005), and key models from UX and SX research. This analysis allowed for the identification and initial definition of the five hierarchical levels and associated dimensions that structure the proposed framework.

In the second phase, a focus group was conducted with six master's students (four women and two men) from varied disciplinary backgrounds and academic trajectories. Participants were asked to reflect on their academic journey, specifically discussing enablers and barriers related to engagement, satisfaction, accessibility, and personalization. The qualitative data collected served to refine the framework and validate the relevance and coherence of each level within real-life HE contexts. Ethical approval was obtained, and all participants gave informed consent.

3. The Hedonomic Pyramid for Student Experience (SX)

The Hedonomic Pyramid for SX is an adapted framework designed to provide a structured, hierarchical understanding of how HE institutions can address the diverse and evolving needs of students throughout their academic journey (Figure 1). Building upon Hancock's original Hedonomic Pyramid (2005) and informed by Maslow's hierarchy of needs, this model categorizes the factors that influence student satisfaction, engagement, and long-term academic success within a university setting. This adapted pyramid consists of five interdependent levels, each representing a progressive stage of experience optimization.

The Hedonomic Pyramid (Figure 1) incorporates two complementary lateral axes: Ergonomics to Hedonomics and Shifts in Focus from Academia to Value.

The right axis illustrates the progression from ergonomics to hedonomics. This transition moves beyond focusing solely on the functionality and efficiency of educational systems (ergonomics) to emphasize the creation of emotionally enriching and pleasurable experiences (hedonomics).

The left axis represents the evolution of focus within HE. Initially, institutions prioritize academic structures and operational efficiency, centering efforts on content delivery and institutional objectives. The next stage shifts toward a student-centric approach, addressing

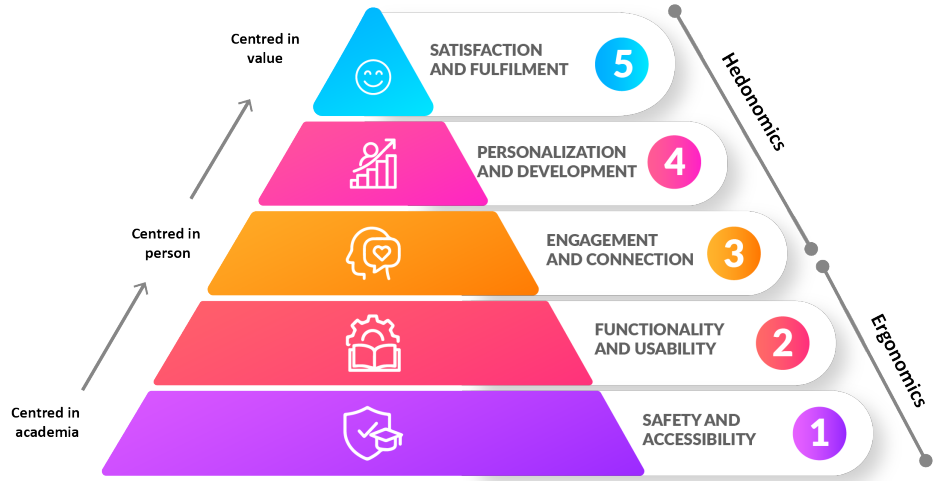

Figure 1: The Hedonomic Pyramid for Student Experience (SX). Adapted from Hancock et al. (2005).

individual growth, autonomy, and personalized support. Finally, at its highest level, the focus moves toward creating experiences that maximize value for students. This includes fostering transformative engagements that prepare students for professional success and meaningful societal contributions, ensuring long-lasting satisfaction and a legacy of impactful learning.

3.1. Level 1: Safety and Accessibility

The foundational level of the Hedonomic Pyramid for SX emphasizes the creation of an inclusive, secure, and barrier-free academic environment. Safety and accessibility serve as prerequisites for effective learning, as students cannot fully engage with their academic and social experiences if basic physical, emotional, or digital barriers exist. The key components in this level are:

- **Physical accessibility:** Infrastructure adjustments such as ramps, elevators, and accessible classrooms ensure equitable participation for all students, including those with physical disabilities (Nikolaraizi et al., 2023).
- **Digital accessibility:** Digital learning tools, such as learning management systems and virtual classrooms, must be designed for universal access, ensuring usability for students with varying levels of digital literacy or assistive technology needs.
- **Emotional and physical safety:** Environments free from discrimination, harassment, and violence, supported by institutional policies on psychological safety and inclusion.

In HE, safety and accessibility are shaped by multiple factors that directly impact students' ability to participate fully in their academic journey. On a personal level, factors such as socioeconomic status, disabilities, age, gender identity, and family background shape students' ability to participate (Aza et al., 2023; Cowley et al., 2024; Sax, 2009; Stewart et al., 2023;

Zhjeqi et al., 2024). Financial instability can hinder access to resources, while inadequate accommodations create barriers for students with disabilities (Aza et al., 2023; Stoll et al., 2023; Zhjeqi et al., 2024). Age also plays a role, with older students often balancing academic commitments with work and family, while younger students may face emotional insecurities in a new environment. The absence of inclusive policies can impact emotional safety, particularly for students navigating gender identity issues. Socially, fostering inclusive communities and ensuring environments free from discrimination enhance emotional well-being and a sense of belonging. Academically, equitable access to learning materials and inclusive curricula addresses diverse learning needs (Stowell, 2004). Institutions contribute through supportive policies, accessible infrastructure, and services such as counselling and career guidance, all of which improve accessibility and safety. External factors, such as geographic location and transportation accessibility, also affect students' engagement, particularly in underserved areas (Kahu et al., 2020).

3.2. Level 2: Functionality and Usability

The second level of the Hedonomic Pyramid focuses on functionality and usability, which are critical elements for ensuring that educational systems, methods, and resources are effective, and practical. This level ensures that students not only have access to the necessary tools but can also use them efficiently, fostering a smooth and optimized learning experience. Functionality and usability directly influence the quality of learning, as well-designed educational environments allow students to focus on content by eliminating technical or methodological barriers that could hinder their academic progress. This level includes three main components:

- **Resource functionality:** The quality, relevance, and effectiveness of pedagogical tools, academic management systems, and learning materials.
- **Platform and method usability:** Efficient navigation and seamless experiences in digital environments, such as virtual classrooms and collaborative tools.
- **Learning process optimization:** The adaptation of methodologies and technologies to ensure that the educational process is functional and practical, enabling effective student interaction with their environment.

Functionality and usability depend on several dimensions. At the personal level, digital skills, learning styles, and sense of self-efficacy are crucial (Browning & Bustard, 2024; Hanley & Wyatt, 2021; Moesarofah et al., 2023). Limited technical proficiency can exclude students, highlighting the need for inclusive designs and adaptable tools that support diverse learning styles. Intuitive platforms and clear guidance reduce anxiety and boost engagement. Socially, collaboration tools like shared documents and virtual discussions promote equitable participation and strengthen peer connections, while supportive relationships with instructors enhance learning (Browning & Bustard, 2024; Cowley et al., 2024; Stewart et al., 2023; Zhjeqi

et al., 2024). Academically, resources must align with curricula, be accessible, and motivate students through innovative methods like flipped classrooms and problem-based learning. Formative assessments offer feedback to guide progress (Kahu et al., 2020). Institutionally, accessible, intuitive platforms and streamlined systems simplify processes like enrolment. Policies must foster innovation and staff training to keep resources relevant. Externally, emerging technologies like AI and virtual reality expand possibilities, while students expect mobile-friendly, personalized tools that adapt to evolving trends.

3.3. Level 3: Engagement and connection

The third level of the Hedonomic Pyramid emphasizes the importance of emotional engagement and meaningful connection as fundamental pillars of a significant and satisfying educational experience. This level goes beyond functional interactions between students and their environment, aiming to cultivate emotional bonds that enhance active participation, a sense of belonging, and intrinsic motivation.

A university environment that fosters quality relationships, supportive communities, and shared purpose can transform the SX, promoting not only academic development but also emotional and social well-being. The following variables are associated with this level from a multidimensional perspective:

- **Meaningful interactions:** High-quality relationships between students, faculty, and academic staff that promote a collaborative and empathetic environment.
- **Sense of community:** Programs that encourage student participation in extracurricular activities, associations, or interest groups.
- **Intrinsic motivation:** Developing an environment that inspires genuine commitment and emotional connection to educational and professional goals.

Engagement and connection are shaped by various dimensions. On a personal level, intrinsic motivation is driven by curiosity, self-efficacy, and vocational clarity, helping students find purpose in their studies. Personality traits such as openness and emotional stability further encourage meaningful interactions and group participation. The social dimension highlights the role of relationships. Supportive interactions with peers, faculty, and family foster collaboration, resilience, and a sense of community, while belonging enhances students' connection to their environment. Academically, active participation through methods like problem-based learning and collaborative projects strengthens emotional involvement and reinforces the relevance of academic goals (Tinto, 2017). Feedback systems sustain motivation and a sense of progress. Institutionally, campus culture, extracurricular activities, and inclusive policies encourage engagement by promoting diversity, social integration, and institutional identity (Heilporn & Lakhal, 2021). Informal spaces and structured initiatives further support interaction and community-building. External factors, such as cultural norms and partnerships with local or

global communities, deepen students' sense of purpose and expand connections beyond the campus, enriching the overall educational experience.

3.4. Level 4: Personalization and Development

The fourth level emphasizes the importance of adapting the educational experience to the unique goals, needs, and abilities of individual students. Personalization ensures that the academic journey is relevant and meaningful for each learner.

- **Flexible learning paths:** Curricula tailored to students' aspirations.
- **Personal growth opportunities:** Initiatives fostering emotional, academic, and professional development.
- **Mentorship programs:** Personalized guidance supporting student success.

This level spans multiple dimensions. The personal dimension focuses on tailoring education to individual goals, learning styles, and emotional growth, fostering self-efficacy, resilience, and autonomy. In the social dimension, mentorship programs and collaborative flexibility provide tailored support and promote inclusion, while social networks ensure students feel connected and supported. Academically, personalized curricula, innovative assessments, and applied learning opportunities align education with students' strengths and career goals. Institutions play a key role by offering adaptable policies, infrastructure, and learning environments to accommodate diverse needs. Externally, personalization aligns education with professional and societal demands. Flexible learning modes, such as hybrid and remote options, ensure accessibility and equip students with skills relevant to their aspirations and the job market.

3.5. Level 5: Satisfaction and fulfilment

The final level represents the ultimate goal of the SX: achieving deep satisfaction, a sense of personal accomplishment, and long-term fulfilment from the educational journey.

- **Achievement of academic goals:** Completion of degrees and personal milestones.
- **Memorable experiences:** Transformative projects and impactful learning moments.
- **Holistic well-being:** Balance in academic, emotional, and personal dimensions.

On a personal level, fulfilment stems from emotional well-being, psychological stability, and the recognition of achievements. Celebrating academic milestones fosters pride and motivation, while the ability to navigate challenges enhances confidence and self-worth. The social dimension emphasizes belonging and shared successes. Supportive networks and collective achievements, such as group projects or initiatives, strengthen ties to the university community and provide emotional fulfilment. Academically, unique opportunities like transformative projects, international collaborations, and lifelong learning initiatives expand perspectives and equip students for personal and professional growth beyond formal education. Institutions play a key role through formal recognition programs, such as awards and ceremonies, which validate

students' accomplishments. Wellness initiatives addressing mental health and stress management further enhance satisfaction, creating a supportive and holistic environment. Externally, fulfilment extends to societal and professional contexts. Career readiness programs and opportunities for impactful contributions enable students to apply their knowledge meaningfully, fostering a sense of purpose and long-term achievement.

4. Conclusions and future lines

This paper introduces the Hedonomic Pyramid as a structured framework for enhancing the SX in HE. By addressing hierarchical needs from foundational safety to personal fulfilment, the model offers a comprehensive approach to understanding and improving SX. It emphasizes creating inclusive, human-centred educational environments that support students' academic, emotional, and personal growth while promoting engagement and long-term satisfaction. The pyramid's layered structure helps institutions identify and address gaps in areas like accessibility, usability, emotional connection, and personalization. This approach not only fosters better academic outcomes but also enhances student retention, equity, and readiness for life beyond university.

Practically, the framework can guide institutional improvement strategies, support co-design processes with students, and be used across various university departments. It also offers a foundation for the development of diagnostic tools such as questionnaires or evaluation instruments

However, this study remains a theoretical exploration, lacking empirical validation and practical application across diverse institutions and cultural contexts. The hierarchical nature of the pyramid may oversimplify the complexities of SX, where needs often overlap or evolve dynamically. Challenges related to operationalizing the framework—such as institutional resistance, resource limitations, and varying levels of technological readiness—also require further exploration. Additionally, the framework must adapt to the rapid evolution of educational technologies and the growing demands of remote and hybrid learning environments.

Despite these challenges, the pyramid offers practical implications. It can inform institutional policies on inclusion and well-being, guide staff training in human-centred educational practices, and support the design of learning environments that are flexible, accessible and emotionally engaging. Additionally, the model could serve as a conceptual foundation for the development of new assessment tools—such as questionnaires, diagnostics, or design guidelines—focused on evaluating or improving the SX in a structured and evidence-based way. Future research should focus on validating the framework through empirical studies, developing measurable indicators for each level, and exploring its application in diverse learning environments—including online and hybrid settings—to ensure its adaptability to the evolving landscape of higher education.

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