

FLORENCE PROJECT – DESIGNING FROM WITHIN: A LIVING LAB MODEL FOR INNOVATIVE HIGHER EDUCATION INSIDE A MEDICAL CENTER

Michal Eitan

Bezalel Academy of Arts and Design Jerusalem (Israel)

Abstract

The Florence Project is an academic living lab embedded inside Soroka Medical Center that relocates design education from the studio into everyday clinical life. Students spend an entire semester working in hospital wards, collaborating with staff, patients, and families while researching, mapping services, and testing solutions in real time. Rather than simulating reality, the program treats the hospital itself as a classroom and authentic constraints as learning drivers. This paper presents the Florence model as an innovative pedagogical framework for higher education and illustrates it through an in-depth case study focused on transforming the pediatric meal experience. Drawing on experiential learning, participatory design, and work-integrated learning literature, the paper argues that immersive, interdisciplinary collaboration cultivates empathy, systems thinking, and professional readiness while simultaneously producing measurable institutional impact.

Keywords: *Living lab, experiential learning, work-integrated learning, design education, interdisciplinary collaboration.*

1. Introduction

The Florence Project emerged from a growing gap between design education and the realities graduates encounter in complex public systems. While studios offer protected spaces for experimentation, they rarely expose students to organizational constraints, emotional intensity, and multi-stakeholder negotiations that define contemporary healthcare. In partnership with Bezalel Academy of Arts and Design Jerusalem and Soroka Medical Center, the program embeds students directly inside the hospital, transforming a functioning medical center into a site of learning, research, and innovation.

2. Theoretical background

In recent years, higher education has increasingly shifted from knowledge transmission toward competency-based and practice-oriented learning. Universities are expected not only to provide disciplinary knowledge but also to prepare graduates to operate effectively in complex, uncertain, and collaborative professional environments. This shift has generated growing interest in pedagogical models that integrate learning with authentic practice rather than isolating it within classroom settings.

Experiential learning theory provides an early foundation for this approach. Kolb (1984) argues that learning emerges through iterative cycles of concrete experience, reflection, conceptualization, and experimentation. Knowledge is therefore constructed through engagement with real situations rather than acquired solely through abstract instruction. In design education, such cycles are particularly important, as understanding develops through doing, testing, and adapting.

Building on this perspective, situated learning theory suggests that knowledge is inseparable from the contexts and communities in which it is practiced (Lave & Wenger, 1991). Learning occurs through legitimate participation in communities of practice, where novices gradually develop professional identities. From this standpoint, classrooms detached from real systems risk producing decontextualized knowledge that may not transfer easily to professional settings.

Parallel developments in participatory and co-design research further challenge expert-driven models of problem solving. Innovation in complex social systems emerges through collaboration with stakeholders rather than through external analysis alone (Sanders & Stappers, 2008; Björgvinsson et al.,

2019). Designers increasingly function as facilitators of collective processes rather than authors of isolated solutions.

More recently, living labs have gained attention as infrastructures for open and situated innovation. Living labs treat everyday environments as experimental sites where users, professionals, and researchers jointly explore problems and test solutions in context (Schuurman & Tönurist, 2017; Leminen et al., 2021). While commonly discussed in urban and technological innovation, their implications for pedagogy are only beginning to be explored.

At the same time, scholarship on work-integrated learning demonstrates that extended, authentic placements cultivate employability skills such as communication, adaptability, ethical judgment, and systems thinking more effectively than classroom-based instruction alone (Jackson, 2015; McRae & Johnston, 2022). These competencies align closely with those required in healthcare and other public systems.

Taken together, these bodies of literature point toward a shared conclusion: learning is most powerful when it occurs within the systems it seeks to influence.

The Florence Project operationalizes this convergence of experiential learning, situated practice, participatory design, living labs, and work-integrated learning. By relocating the entire semester into a functioning hospital, it transforms the clinical environment into a pedagogical infrastructure and positions students as temporary members of a professional community of practice. In doing so, the project extends these theories by demonstrating how living labs can serve not only as innovation platforms but also as sustained educational frameworks.

3. The Florence living lab model

Students relocate to Be'er Sheva for a semester and work daily inside hospital wards. Activities include observation, interviews, journey mapping, ideation workshops, rapid prototyping, and in-situ testing. Courses are co-taught with clinicians and hospital staff, modeling interdisciplinary practice. Learning is structured around long-form challenges that move from research to implementation, enabling students to experience complete innovation cycles.

Table 1. Core Components of the Florence Living Lab Pedagogical Model.

Component	Educational Function
Immersive placement inside hospital	Situated learning and authentic exposure to real constraints
Interdisciplinary teaching team	Integration of clinical and design knowledge
Long-form semester projects	Depth, ownership, and end-to-end innovation cycles
Rapid prototyping in situ	Immediate feedback and experiential iteration
Stakeholder co-creation	Collaboration and collective problem solving
Structured reflection	Critical thinking and knowledge consolidation
Implementation in the ward	Tangible impact and professional accountability

4. Case study: Transforming the meal experience in a pediatric ward

One cohort addressed an unexpected yet critical issue in one of the pediatric wards: despite high satisfaction with medical care, families consistently described hospital meals as depressing and stressful. The hospital asked the team to improve the experience with one strict constraint—the food itself could not be changed. This reframed the problem from nutrition to service and experience design.

Students conducted immersive fieldwork by observing kitchen operations, following food carts, eating alongside children, and interviewing parents, nurses, and dietitians. They mapped the entire food journey and discovered that dissatisfaction stemmed not from taste but from contextual factors such as lack of choice, eating alone in bed, poor timing, and negative emotional associations with meal delivery.

Working with staff, the team developed small systemic interventions: an in-ward ordering station for the caregivers present with the child; redesigned delivery carts with distinctive uniforms and music to create a positive moment; foldable tables enabling families to eat together; and revised dinner logistics including a flexible food box and shared refrigerator access.

All solutions were prototyped and tested iteratively. After one year of implementation, the hospital reported an 80% increase in meal satisfaction in the pilot ward compared with the other pediatric wards.

For students, the project demonstrated that meaningful healthcare innovation can emerge from redesigning relationships, schedules, and environments rather than products alone.

5. Learning outcomes

The immersive context fostered systems thinking, empathy, interdisciplinary collaboration, and professional confidence. Students learned to negotiate constraints, communicate with diverse stakeholders, and translate insights into implementable solutions. These capabilities align closely with competencies identified in contemporary work-integrated learning research.

6. Institutional and societal impact

Beyond education, the hospital benefited from tangible improvements and a new culture of collaborative innovation. Small interventions accumulated into noticeable enhancements in patient and caregiver experience, while staff began viewing students as partners rather than external consultants.

7. Discussion: Living labs as a new paradigm for higher education

The Florence Project invites a broader question that extends beyond design education: what happens when the boundaries between university and society dissolve?

Over the past decade, higher education has faced increasing pressure to demonstrate relevance, impact, and employability. Traditional instructional models—lectures, studios, and simulated projects—have proven insufficient in preparing students for environments characterized by uncertainty, interdependence, and rapid change. These concerns are widely documented in contemporary higher-education scholarship (Saltmarsh & Hartley, 2019; Jackson, 2015).

Within this landscape, living labs have emerged internationally as an alternative model for situated innovation. Living labs position real environments as experimental sites where users, professionals, and researchers co-create solutions in everyday settings, integrating research, development, and implementation (Schuurman & Tönurist, 2017; Leminen et al., 2021).

The Florence Project extends this concept explicitly into pedagogy. Instead of treating experiential learning as a supplementary internship or short-term practicum, Florence embeds students for an entire semester inside an operational hospital. This approach aligns with experiential learning theory, which emphasizes cycles of action and reflection as the basis for knowledge construction (Kolb, 1984), and with situated learning, which frames learning as participation in communities of practice (Lave & Wenger, 1991).

This shift carries several implications for higher education.

From Simulation to Authenticity. Many academic programs attempt to simulate real-world complexity through case studies or role-play. Florence replaces simulation with authentic participation. Students encounter ethical dilemmas, time pressure, and organizational resistance—conditions that foster professional judgment and responsibility.

From Individual Creativity to Collective Agency. Participatory and co-design research suggests that innovation in complex systems emerges through collaboration rather than isolated expertise (Björgvinsson et al., 2019). Working inside the hospital, students function as facilitators and mediators within networks of stakeholders rather than as individual authors.

From Knowledge Acquisition to Capability Building. Work-integrated learning research shows that competencies such as adaptability, communication, and systems literacy develop most effectively through authentic professional engagement (Jackson, 2015). Florence can be understood as an intensive form of work-integrated learning embedded within a public institution.

From University as Observer to University as Partner. Engaged-university models argue that higher education should actively contribute to societal systems rather than observe them from a distance (Saltmarsh & Hartley, 2019). In Florence, the hospital becomes a partner in knowledge production, and learning and public value creation occur simultaneously.

While embedded learning requires long-term partnerships and institutional coordination, the benefits suggest a broader paradigm shift. Living labs therefore represent not merely a teaching technique but a structural rethinking of higher education as embedded practice within society.

8. Conclusion

Designing from within demonstrates that immersive, context-based education can simultaneously deepen learning and generate measurable public value. The Florence Project offers a replicable approach for universities seeking innovative teaching models that prepare graduates to work responsibly within complex systems.

References

- Björgvinsson, E., Ehn, P., & Hillgren, P.-A. (2010). Participatory design and "democratizing innovation", *Participatory Design Conference*, 29 November 2010.
- Jackson, D. (2015). Employability skill development in work-integrated learning: Barriers and best practice. *Studies in Higher Education*, 40(2), 350–367.
- Kolb, D. (1984). *Experiential Learning*. Prentice Hall.
- Lave, J., & Wenger, E. (1991). *Situated Learning: Legitimate Peripheral Participation*. Cambridge University Press.
- Leminen, S., Westerlund, M., & Nyström, A.-G. (2012). Living Labs as Open Innovation Networks. *Technology Innovation Management Review*, (September), 6–11.
- Schuurman, D., & Tönurist, P. (2017). Innovation in the public sector: living labs. *Technology Innovation Management Review*, 7(1), 7-14.