

# The Bike Board: A Practice-Oriented Design Research Approach to Understand and Design for Social Practices at The Bike Kitchen

Field research: Max Crutzen, Susan Draaijer, Rosanna Henstra, Teun Veulenturf, Stefanie Zins



## RESEARCH FRAMING

For a resident of the Netherlands, acquiring the skill of cycling at an early age can be seen as a traditional and essential aspect of culture and upbringing [4]. With approximately 22.3 million bicycles present in the country, cycling isn't merely a means of transportation; it's a way of life, made possible by the extensive 37,000 kilometers of bike lanes [3]. Nevertheless, every year, an estimated 10 to 15 thousand bikes are being fished out of the canals in Amsterdam as of 2023, suggesting a remaining disregard for this alternative mode of transportation [5]. As a result, 5 students of the TU/e, guided by design researcher Dirk Ploos van Amstel, seized the opportunity to perform field research through the lens of Social Practice Theory at The Bike Kitchen in the University of Amsterdam (UvA), aiming to narrow, slow and/or close the loop of resource use. As a result, the performed research aims to fill the gap in generating knowledge on how to effectively create sustainable toolkits for Product-Service-Systems (PSS) when it comes to *physically and psychologically owning* a bike, further elaborating on the related work of Amstel et al. where leasing the bike from The Student Hotel (TSH) stood central [6]. Additionally, the performed research provided insights into how TBK environment can support visitors in implementing new social practices that contribute to TBK's mission of shaping a sustainable future for urban mobility [7].

### Main Research Question

*"How can initiators/designers using a practice theories-based toolset support TBK participants in implementing new Social Practices that narrow, slow and/or close resource use?"*

In conclusion, this case study serves as a catalyst for directing a shift in the mechanisms through which ordinary routines evolve, endure, and change over time. This transformation involves building upon the already established *'learning how to ride a bike'* in Dutch culture, with *'knowledge and awareness of bicycle repair'*, ultimately creating a community that reduces the disregard for sustainable value.

## THE BIKE KITCHEN CONCEPT

At the Roeterseilandcampus, one of the city campuses of the University of Amsterdam, The Bike Kitchen is located in the basement of the ABC-bicycle parking garage [7]. The environment, unique in its concept in the Netherlands, provides mostly University students non-second-hand bicycle repair tools for hands-on learning from an expert mechanic, and officially opened its doors October 19th 2023. The Bike Kitchen at the UvA is co-founded with the Urban Cycling Institute, but is also part of a global collective [2][1]. One of TBK's missions is to establish a platform for generating knowledge on the multifaceted nature of urban cycling [8]. Performing field research, therefore, had been crucial in concretely bridging the gap, as it allowed the research team to delve deeply into the current existing practices and social dynamics at The Bike Kitchen (TBK).

## METHOD

Guided by the main research question, the methods utilized during the study were observational research, interviews, as well as a research probe which will be referred to as The Bike Board (TBB).

### Observational research

With the use of observation schemes structured through the three-element model of Practices; materials, competencies and meanings, TBK environment had been observed in a natural setting.

### The Bike Board

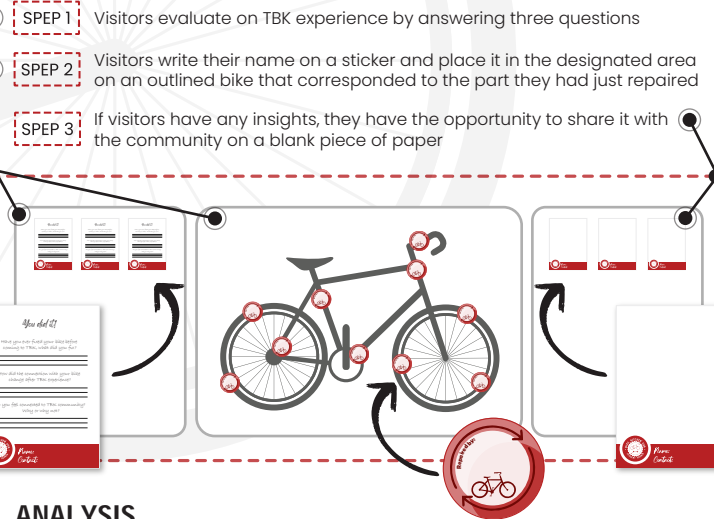
Based on the results of the observational research, the laser-cut Bike Board was constructed, consisting of a primary panel and two adjacent panels designed for evaluation and insights, and positioned within TBK's environment for a day.

### Interviews

After visitors interacted with TBB, they were asked to answer interview questions outside TBK. These questions were directed towards gaining qualitative understanding in TBK experience, TBB experience, and the difference in connection with their bike (ownership).

## RESEARCH PROBE - TBB

To understand and analyze the social practices taking place at the bike repair shop, The Bike Board was utilized as a research probe. This enabled the collection of data on current experiences within TBK from a Practice lens and explored whether implementing such a design in the environment could enhance the feeling of community. Interaction with TBB was a three-step process:



## ANALYSIS

The data that had been collected throughout the study had been analyzed with the thematic analysis approach. Both the data from the observational schemes and interviews were grouped into the categories of the three-element model separately, forming a practice-as-performance category for the observation schemes, and a practice-as-entity category for the transcribed interviews.

### Practice-as-performance

Learning Community & Social Interactions Reactions to TBB

### Practice-as-entity

Learning Value of bike Reactions to TBB

Drawing from these themes, various insights were gathered which can be supported by the following quotes and observations:

**Learning is dependent on the mechanic** *Observation*

Participant 5, who is a more experienced TBK visitor, still spent a lot of time speaking to and learning from the mechanic before proceeding to repair his bike on his own.

**Community building is dependent on accidental outcomes** *Observation*

Seeing a conflict between TBK initiators' desire to build a community and TBK participants' desire to not have to return

**Change in value of bike is subjective** *Quote*

*"I would not say that I value my bike more, because it is very hard to value this bike even more (referring to his VanMoof bike), but if I didn't have such an expensive bike then yes, I would have"*

**TBB potential could increase over time** *Observation*

Participants noted that this misunderstanding could be caused due to various reasons such as TBB not being filled with enough notecards or stickers yet, or its placement within the space.

## CONCLUSION

A key finding from the performed research is that learning plays a substantial role in the Social Practices which are performed in TBK. From a design approach, the conclusion could be drawn that when designing a sustainable toolkit for Product-Service-Systems (PSS), there should be a focus on facilitating learning, from mechanic to student as well as from student to student, in order to effectively let a community grow. Namely, at this moment community building is dependent on accidental outcomes, leading to students solely focusing their interactions with their *physically and psychologically owned* bicycles. Design interventions such as The Bike Board could have the potential to enhance the formation of a community, but the element of time to let this community flourish should be considered during this evaluation.

[1] Folia. (n.d.). Vanaf maart zelf leren je fiets repareren op de Roeterseilandcampus. <https://www.folia.nl/actueel/154513/vanaf-maart-zelf-leren-je-fiets-repareren-op-de-roeterseilandcampus>

[2] Glaser, M. 2023. Urban Cycling Institute - Bike Kitchen - Repair Your Bike. Urban Cycling Institute - Bringing Cycling Research from Science to Practice and Back. <https://urbancyclinginstitute.org/bikekitchenuva/>

[3] Kenniscentrum Nederland. 2023. De Nederlandse fietscultuur. Immaterieel Erfgoed. <https://www.immaterieel-erfgoed.nl/nl/page/5634/de-nederlandse-fietscultuur>

[4] Miller, R.E., Murphy, R.P., Neel, W.H., Kiser, J.A., Mucci, K., & O'Mara, M. 2013. ITE's Bicycle Tour of the Netherlands: Insights and Perspectives. Ite Journal-institute of Transportation Engineers, 83.

[5] NH Nieuws. 2023. Fietsvissers halen Amsterdamse grachten leeg. "10 tot 15 duizend fietsen per jaar

komen eruit" <https://www.nhnieuws.nl/nieuws/321686/fietsvissers-halen-amsterdamse-grachten-leeg-10-tot-15-duizend-fietsen-per-jaar-komen-eruit>

[6] Ploos van Amstel, D., Kuijer, L., van der Lugt, R., Eggens, B. 2022. Opportunities for design to reduce Environmental Impact from Product-Service-Systems Usage; a Systematic Literature Review.

[7] Universiteit van Amsterdam. 2023. Bike Kitchen maakt van REC-Kalderontmoetingsplek die de fiets waar waarde geeft. <https://www.uva.nl/content/nieuws/nieuwsberichten/2023/10/bike-kitchen-maakt-van-rec-kalderontmoetingsplek-die-de-fiets-weer-waarde-geeft.html>

[8] Urban Cycling Institute (UvA). (n.d.). openresearch.amsterdam. <https://openresearch.amsterdam/nl/page/53562/urban-cycling-institute-uva>