Maki Nakaya-Sommet, Moritz Sommet

An adaptation of *kamishibai* as an educational kit for reproductive health in India

This paper presents an on-going product design project that aims to improve reproductive health education in India through Japanese paper theatre (*kamishibai)*. The educational kit resulting from the project alters the conventional form of *kamishibai* to adapt it to local conditions and make it easier to use, allowing untrained persons to teach this complex subject matter. We discuss the pilot episode from a series of plays teaching reproductive health specifically adapted to an Indian context. Since *kamishibai* is not well known in India, the project also comprises an adaptation of its physical form to reduce both manufacturing costs and difficulty of use.

Keywords

Reproductive health education, India, *kamishibai*, educational kits, intercultural adaptation, product design in education

Modern India faces persistent problems of access to gender- and sex-related knowledge, which negatively affects the development potential of the country as a whole as well as the individual quality of life of millions of men and women. Working from the assumption that a sexual education that is both culture-sensitive and adapted to the material realities of the Indian context plays a key role in disseminating such knowledge, this paper argues for a product design approach to creating a reproductive health educational kit. We present an on-going project that employs a slightly altered form of *kamishibai* (Japanese paper theatre) to teach children and adolescents about health issues such as menstruation. Development for this project began in 2017 in Chennai, Tamil Nadu, but it is intended to be adaptable to other Indian regions.[1]

Sex education stigmatization in India

Stigmatization of the female gender, of LGBQTI issues and of sexually transmitted diseases is common in India, with many of these problems stemming from a lack of knowledge. To briefly illustrate this problem, we may cite the situation surrounding HIV. While statistics show a decline in the number of new infections since 2001 by 50%, 2.1 million people in India are

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[1] For more information about this project and additional visual material not included in this paper, cf. the official website: https://www.makinakaya.com/process-kamishibai. Accessed August 26, 2018.

living with HIV (UNAIDS 85). Patients are often discriminated against by their own families, in their workplaces, by their neighbours or even by public servants such as school workers or doctors and nurses.[2] A study of staff attitudes in government and non-government clinics in Mumbai and Bengaluru showed a widespread support (around 80% of respondents) for prohibiting women living with HIV from having children as well as for statements to the effect that people who acquired HIV through sex or drugs "got what they deserved" (Ekstrand et al. 4). The government addresses the problem through efforts that fight against stigmatization towards people living with HIV, such as *The National AIDS Control Programme* (since 1999) or *The HIV and AIDS Prevention and Control Bill* (since 2017), but fear of discrimination among patients remains high (Mukherjee et al.).

Much of this stigmatization crisis appears to stem from a lack of reliable knowledge. In general, education is becoming increasingly valued and important in India, especially for the 'new Indian woman' of the rapidly growing middle classes – yet even for this modern woman, "there continues to be a certain tension and anxiety in the discourse regarding her sexuality" (Belliappa 66). This anxiety permeates the educational system. In 2014, just 19% of all girls (versus 35% of all boys) knew much about HIV/AIDS, while only 15% of all young men and women (aged 15-24) reported that they had ever received family life or sex education (Bhangaokar and Pandya 85). This lack of systematic and adequate education appears to stem from issues of stigmatization. In India, sex is widely regarded as a taboo topic. Attempts to introduce reproductive health education frequently meet with resistance by teachers, by parents and by the politicians that represent them. In 2014, Harsh Vardhan, the current Minister of Science & Technology and Earth Sciences in the Government of India, has called on his website for "[s]o-called "sex education" to be banned. Yoga to be made compulsory." Vardhan has since walked back this statement, but still insists that "[c]rudity and graphic representation of culturally objectionable symbols as manifested in the [previous government's] so-called sex education programme cannot be called sex education" (ET Bureau). Other opponents of 'sex education' argue that it will "promote promiscuity of the worst kind, strike at the root of the cultural fabric, corrupt Indian youth and lead to the collapse of the education system and the decrease of virginity age" (Sawhney 2014). Currently, reproductive health education is banned at schools in five Indian states. Indian children tend to be either not interested in the issue since they do not yet feel affected by it, or they feel awkward and avoid discussing it in public. This leaves

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[2] For the following description of the situation surrounding HIV in India, we mainly rely on data and research originally compiled by UK-based educational organisation AVERT (cf. https://www.avert.org/professionals/hiv-around-world/asia-pacific/india). Accessed 26 Aug. 2018.

young adults to resort to the information they can gather from books, magazines, youth counsellors, and through pornography, often without questioning the reliability of the source (Ismail et al. 2015).

Reproductive health education through *kamishibai*

What form might a pragmatic educational program led by principles of product design thinking take in the face of such deeply rooted resistance? We argue that, first off, it ought to avoid the stigma associated with the term "sexual education." The words "sex" or "reproduction" by themselves tend to cause almost allergic reactions in Indian public discourse, especially when associated with school or children. (This problem is, of course, hardly restricted to India.) Instead, a pragmatic approach should strive towards the implementation of a comprehensive reproductive health education program. UNESCO's 2018 evidence-based "International technical guidance on sexual education" offers a basic framework for such a program. It suggests numerous learning objectives that range from relationships (such as family, friends, or marriage), values, attitudes and skills (such as decision making, consent, or negotiation), culture, society and human rights, human development, and, finally, sexual behaviour and sexual and reproductive health. In other words, reproductive health education should be a life-skill class that deals with more than sexuality in the narrow sense of the term, and it should be presented as such.

At the content level, such a program should strive to reduce feelings of awkwardness. It should be fun, it should offer reliable information, it should be easy to relate to, and it should evoke familiar settings and feelings. It should also become a recurring experience for pupils to build trust. Given material restrictions prevalent throughout much of India, the solution ought to be cheap, modular and systematized. The program should be effective at addressing many children at once. A mobile solution might to be able to cover large areas at little material cost.

We suggest that the Japanese pedagogical practice of *kamishibai*, when sufficiently adapted to the Indian context, might contribute to a solution of the knowledge crisis in reproductive health. Most often literally translated as 'paper theatre,' *kamishibai* has proved highly adaptable throughout its history. It is situated in a long visual-narrative tradition going back to Japanese Buddhist pictorial storytelling, and it has in turn inspired other media such as certain forms of *manga* (Köhn 213-235). It was most popular as a form of popular street theatre in pre-war and early post-war Japan and repurposed for propaganda in wartime, indicating that its effectiveness as a communication and teaching tool has also long been recognized (Horner, Orbaugh 87-97). Today, this art form survives mostly as 'pedagogical paper theatre' (*kyōiku kamishibai*) and is

regularly practiced at schools in Japan and other countries. Pedagogical *kamishibai* is already being used in health education (Hohashi and Honda), and its form and function is continually evolving, leading for instance to the development of a 'digital paper theatre' (*dejitaru kamishibai*) in the early 2000s (Shintani et al.).

Certain existing cultural affinities might be also helpful when adapting *kamishibai* to the Indian context. The teaching style employed at Indian schools is frontal, much like in Japan. Students are typically well disciplined and used to listen to authority. Reaching children in schools at an early age and on a large scale ought to be effective at addressing the root of the problem. An informed child grows into an informed adult, and knowledge received by children at school may even reach their parents through them. Another benefit of *kamishibai* is that it permits to educate not only the audience but also the performers by giving them reliable information. *Kamishibai* can be fun, and Indians' love for entertainment will likely work in its favour. It transmits ideas multimodally, in simultaneously auditive and visual ways, and the audience's interest is more likely to be engaged by a live performance that leaves room for interaction with the children (McGowan).[3] *Kamishibai* materials are transportable. The theatrical setting and the physical presence of the *kamishibai* sheets between the performer and the audience also serve to create safe zones for both parties, protecting them from each other's sight and reducing awkwardness when discussing sensitive topics.

A *kamishibai* solution for reproductive health education might take the form of a series of plays with recurring characters that covers everything from the ethical aspects of reproductive health for younger children (such as gender equality and consent) to biological aspects for young teenagers (such as menstruation or STD). The repeat appearance of the same characters in the series should build trust and help the recipients absorb information that at first might be hard to accept. Taking a cue from product design, we might imagine such a series as part of a brand strategy that aims to build familiarity with young children to create life-long customers. When used on a website or a campaign, these same characters can serve as signal markers that guarantee the reliability of the information on offer.

Physically adapting the *kamishibai* format

The physical form of *kamishibai* is an area where product design might help with adapting the art form to the Indian context. While it is economical and transportable, skilful usage of the

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[3] While McGowan examines mostly student performances, we believe that *kamishibai* can also be made interactive and engaging in the more frontal teacher-student settings necessitated by the large class sizes and prevalent cultural norms in India.

kamishibai and its miniature proscenium (*butai*) requires a trained performer, especially outside of Japan where this form of storytelling is not commonly known. Since the solution should be cheap and be able to be used immediately, the project under discussion in this article proposes some ergonomic adjustments and simplifications to the material form of the paper theatre.

A design analysis reveals several difficulties with the orthodox *butai*. The first one concerns the inclination of the slides: untrained performers tend to incline the *kamishibai* board too far for the audience to see the picture, or they accidentally hide parts of the pictures with their hands. The proposed solution allows the performer to read comfortably while assuring the visibility of the pictures. The economic aspects of *kamishibai* can also constitute a hurdle. Carton board is well adapted to regular use, but costly. The risk of pages getting lost or getting out of order must also be taken into consideration, especially if a set is to be shared among several schools.
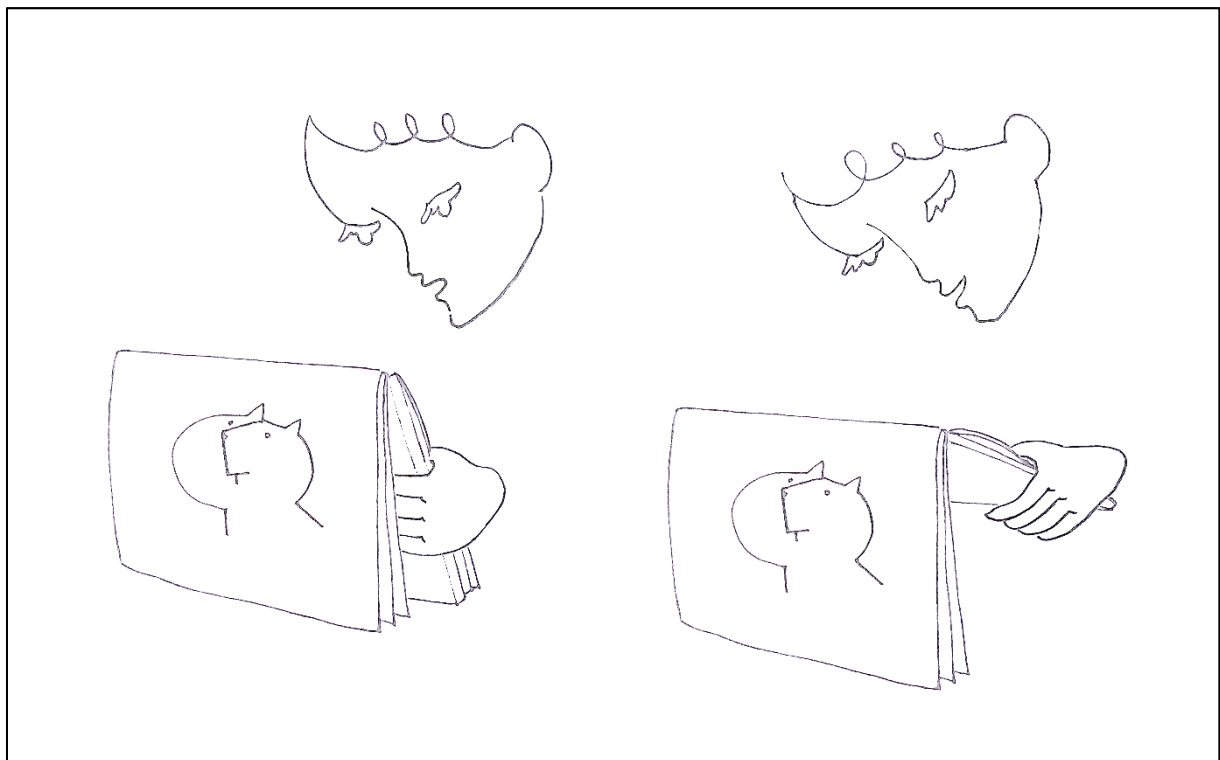
1: Flexible bound kamishibai *solution without* butai

The proposed solution is to bind together sheets of paper prints with a piece of carton board. This way, the sheet of paper that is currently on display can hang loosely, giving the audience a good view of the picture regardless of how much inclination the narrator needs to read out the text comfortably. The bound form also reduces the risk of losing single slides or confusing their order. Since everything is in A3 format, the contents of a *kamishibai* episode can easily be downloaded from the Internet and printed out, which should enable individual teachers and

other volunteers to build their own batch of episodes depending on what they are aiming to teach. This solution takes less space to store and is easier to transport, which enables neighbouring schools to share a single set among them. The mock-ups developed and tested for this solution were created using only materials that were both locally available and easily purchasable at a low cost in Chennai, ensuring that the final product is realistic to replicate for everyone.

Culture-sensitive content and character creation

The storyline and visual content of the series was conceived with the intention that it should be culture-sensitive, not offending religious or cultural sensibilities while offering familiarity and trustworthiness to the students.

The overarching story revolves around an animal school in the forest, which reinforces the educational intent and offers a wide range of possible authority figure characters through which knowledge may be taught. The two main characters are young monkeys attending a school situated near a human village. They often observe human beings; their animal nature allows them to wonder about some of the humans' behaviour without appearing silly to the audience and to discuss human anatomy without feeling awkward. They add an objective perspective that refrains from criticism, and they will question and will not understand some of the human behaviour under discussion since they do not follow the same social conventions as human beings. The target audience will also relate to the characters more easily since they are students. They might share some of the same personal issues, even if they are not of the same species. A basic class about respecting each other's feelings and consent for younger children would be a compelling introduction to this series, since these themes do not necessarily evoke any of the awkwardness that surrounds discussions of sexuality.

Being monkeys, the two main characters are culturally well accepted and have the potential to drive forward the story in a fun way. In India, monkeys are associated with the mythology of Hanuman, the ape-god who in the ancient epic Ramayana helps Rama on his journey to save his wife. They also conventionally possess a certain intelligence, curiosity and agility. These qualities are spread across two distinct characters: a girl-monkey called Key, who is a curious, active and reckless troublemaker, and a boy-monkey, Mon, who is a caring, intelligent and cautious sidekick. The characters going against the grain of conventional gender roles might encourage children to question these conventions. Having two main characters also engages the dialogic and performative nature of *kamishibai* in story development and offers the audience two distinct character types to which they might relate.

A third recurring character is a teacher figure. Owl Sir is knowledgeable, respected and generally presented as inert. He knows much about the theoretical aspects of the human world, especially biology and health. For the practical aspects of real life, human characters come into play that vary from episode to episode, depending on the subject. Some episodes might include recurring sub-characters, such as an atypically shy and gentle monkey who has difficulty holding his ground against Key for teaching the importance of respecting other's feelings; or a worldly, cool crow who gives insight into urban life as the counterpart to Owl Sir who cannot realistically provide this sort of real-life observation. These additional characters can broaden the range of the subjects taught.

1: Character designs for Key (left) and Mon

Visual character designs were developed with the target audience in mind, taking inspiration from animation series *Dexter's Laboratory* and *Powerpuff Girls* (both popular with Indian children) for their easy to recognize character features. The main characters might for plot purposes pretend to be human children and wear human clothes in order to spy on humans in their everyday life, so their size is that of small children. One of the main characters, Key, is somewhat strange looking, more ape-like than her humanoid counterpart, Mon. The design expresses her free, artless spirit. Her teeth might make her look aggressive, but on the other hand, it is precisely this atypical feature that makes her memorable. Her orange fur and green eyes are vivid, with atypical colours for girls in India. Mon, the boy monkey on the other hand, has symmetric features and a single, thick straight eyebrow. This brings a slightly concerned expression to face, revealing his prudish nature. Without this asymmetry, his face would be too plain and not in balance with his partner, Key. His colouring also matches his personality: greyish blue fur and black eyes, a bit staid but solid. Owl Sir was designed to signalize his

authenticity and profound knowledge. His enormous size compared to the two monkeys and disproportionally big forehead signal these qualities.

The animal school setting is complemented by a museum of human objects, which exists inside an abandoned train in the forest. Each of these objects tells a story: a broken computer for media literacy, a cricket ball for consent, and the train itself for how to defend oneself against harassment.

Learning about menstruation: some pedagogical sequences from the pilot episode

The pilot episode deals with the subject matter of menstruation, which is one of the most common causes of confusion for girls in India. It is subject to a stigmatization that affects women's life on an everyday basis. Because even mothers feel uncomfortable talking to their daughters about menstruation at home, many girls experience their first period without having previously been taught about it. Menstrual shame is strong, and schools suffer from a lack of hygienic facilities. Some girls hesitate to attend school during their period, which puts them at an academic disadvantage that has repercussions for their further development and careers.

The objective for this pilot episode is to convey

1. an objective perspective on the topic that eschews superstition or stigmatization,
2. basic biological facts about menstruation,
3. how to cope with menstrual shame,
4. alternatives to conventional (and, for various reasons, problematic[4]) menstruation pads made from plastic.

The first two points are addressed by the animal characters, the latter two by a young yet experienced female human character who knows what girls experience during menstruation. It should be stressed that it takes time to change deeply rooted cultural values. It would be unrealistic to believe that no part of the audience will feel awkward during the performance, or that children will accept menstruation as something not to be ashamed of right after watching this episode. The storyline therefore mainly aims to breach a taboo subject in an accessible way.

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[4] Problems include high production and acquisition costs, the widespread clogging of toilets with discarded plastic sanitary napkins, and adverse ecological effects.

The story is structured into seven brief and simple episodes each represented by a *kamishibai* slide:

1. An introduction to a human museum in the forest, which showcases a sanitary napkin.
2. A girl drops a sanitary napkin in a forest. Two monkeys collect it to show it to their teacher, Owl Sir.
3. The teacher gives them a lesson on human anatomy and menstruation.
4. The two monkeys try to give the sanitary pad back to the girl.
5. The girl talks to her big sister, who tells her that she need not feel ashamed of menstruation.
6. The big sister also tells her about cloth sanitary napkins, which she accepts to try out.
7. The monkeys donate the pad to the human museum.

Some brief excerpts from the narrative might serve to illustrate how the pedagogic approach outlined above translates into practice. The second slide shows a girl dropping her menstrual pad in the forest, which makes the monkeys curious:

> *"What is it?"*
>
> *When Mon go to Key, he saw that she was sniffing a flat package wrapped in a thin plastic sheet. "Not very tasty, for sure."*
>
> *"Key, don't just try to eat everything you see! Let's ask Owl Sir."*

2: Slide 2 – Finding out about menstrual pads

Here, the monkeys are just following their instinct while also establishing their roles in this series: the reckless one and the cautious one. In the third slide, they go ask their teacher Owl

Sir, who realizes how little his pupils know about menstruation. He improvises a class about human anatomy:

> *"Now, does someone know where a human baby is during pregnancy?"*
>
> *"Is it the stomach?"*
>
> *"No, it's something else!"*
>
> *"I heard that they come out of this hole that humans pee from!"*
>
> *The students were unable to give the correct answer.*

Since the students are animals, it is natural that they need a lecture about even the most basic things human. The answers they are giving here are common misconceptions about childbirth in India. The performer can choose to ask the same question to the audience to encourage interaction. This is important since the biological part is otherwise likely to bore the children.
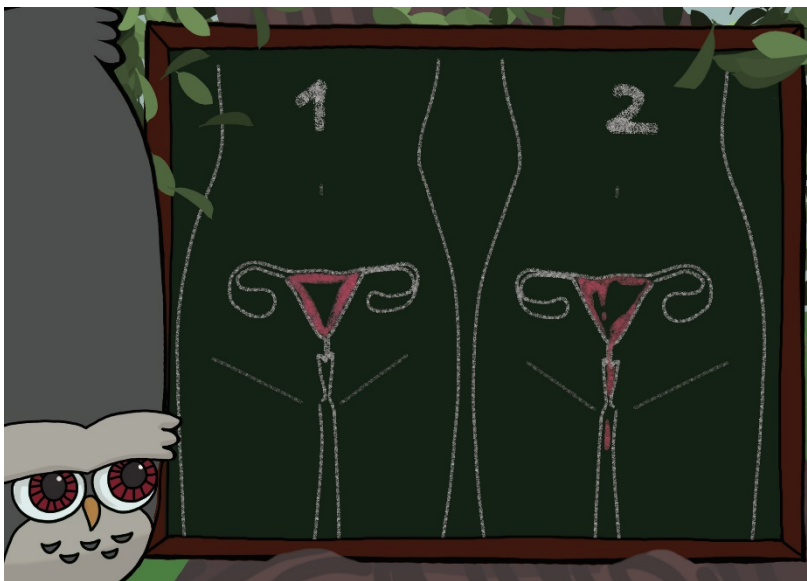
3: Slide 3 – Anatomy lesson

Owl Sir starts to explain human anatomy using a graphic drawn on his black board. He gives a lesson about menstruation and why women needs pads, which makes the two monkeys realize that the girl must be in trouble without her own pad. They try to give it back. As they reach the girl's house, they hear two girls talking. One voice says in a sorrowful tone:

> *"I don't know what to do! If someone sees my pad and finds out that I was the one who let it get lost… What will people think of me?"*
>
> *Key said to Mon, "I don't understand. What does she mean by 'What will they think'?"*

Key's incomprehension offers an objective perspective to the audience, in an innocent way that is certain to provoke incomprehension among an audience familiar with traditional views on menstrual shame. This reaction then meets a surprising answer in the elder sister's response:

"Well, they should think nothing of it! Menstruation is a natural thing, and it's necessary if you want to have a baby. I'm happy to have a period, and I think you should be, too."

"I don't know, sis…"

The girl's reaction to this new idea is realistic. She is not fully convinced (most girls would not be), which makes this episode more authentic and easier to relate to for the audience. When the girl asks her big sister to give her a menstruation pad, she tells her she no longer uses plastic pads.

"But then how do you manage your period?", the girl wanted to know.

"I use cloth napkins. They are better for your health and for the environment. See, there are some alternatives to plastic napkins. You use cloth napkins just like plastic sanitary napkins. They don't leak so easily thanks to a waterproof layer and you have to change them every three to five hours just like plastic pads. But you can wash them and reuse them!"

"So, you touch the blood?" The girl looked surprised.

"Well yes! Just like our grandmothers used to do…."
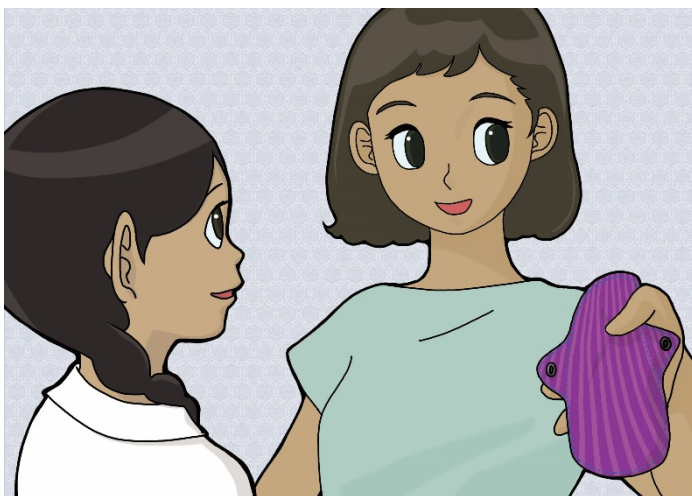
4: Slide 6 – learning about cloth napkins

The aim here is to appeal to traditional values which are held in high regard in Indian society.

"It's not a big deal once you get used to it. After all, it's just your own blood. Plus, cotton has such a nice feeling on the skin. And it's healthy, it's cheaper, and it's ecological, so for me, it's worth it. If you want to, you can try it out. I can give you a new one!" The older sister handed her a cloth napkin.

Because of a lack of alternatives rather than by conviction, the girl accepts to try out the cloth sanitary napkin. She is courageous but not overly so, as is the case in many didactic tales where a person enthusiastically a drastically new idea at the end of the plot. This story, by contrast, has almost an open ending. It offers an opening for class room interaction which can happen between teacher and students as well as among students: will the girl choose to switch to cloth sanitary napkins? Would you use these napkins yourself? And how about touching the blood? Would she really do that?

Preliminary test performance

After translating the original English text into Tamil, the pilot episode was performed at Advent Christ Middle school in Chennai by a teacher with no previous experience with *kamishibai*. The class consisted of 77 girls aged 10 to 15. The reaction of the children and the teachers on site was overall positive. A survey conducted after the performance revealed that 55 of them found the story "very interesting," with another 15 saying it was "interesting." 28 of the girls felt "shy" or "uneasy" during the performance, and 2 "very shy," while 33 reported no particular feelings of shame. These results may be seen as encouraging considering current conditions in this comparatively traditional part of the country.

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About the authors

Maki Nakaya-Sommet, b. 1986, holds a B.A. in product design (2016) from ECAL. She co-organized the exhibition *Re-Importation* in Tōkyō in 2016, interned at an Indian company in Chennai, and worked as an industrial designer at Kuhn Rikon. She is currently working as a freelance designer in Fribourg, Switzerland.

Moritz Sommet, b. 1980, M.A. (Cologne University 2008), M.LIS (Cologne University of Applied Sciences 2011), currently serves as head of documentation at the Research Centre on Multilingualism in Fribourg. His research interests include Japanese literary and media history and the transnational history of libraries and the book.