BAMBOO LANTERN FESTIVAL: A SOCIAL DESIGN EXPERIENCE INTEGRATING THE UNIVERSITY AND THE LOCAL COMMUNITY

UMA EXPERIÊNCIA DE DESIGN SOCIAL: CRIAÇÃO E PRODUÇÃO DE LANTERNAS DE BAMBU NO CONTEXTO DA UNIVERSIDADE E COMUNIDADE LOCAL

FESTIVAL DE LINTERNAS DE BAMBÚ: UNA EXPERIENCIA DE DISEÑO SOCIAL INTEGRANDO LA UNIVERSIDAD Y LA COMUNIDAD LOCAL

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ABSTRACT
Environmental degradation and global social inequality require an education focused on transforming values and practices in today's world. Bamboo, both as a plant and a material, has mitigated the impacts of climate change. Combined with design within a bamboo productive chain, it also enhances the possibility of a pedagogical dimension for design students and the participation of local communities. This study aims to examine how social design can collaborate in education for sustainability, involving the researcher's participant observation and co-creation, which resulted in the Take Akari Bamboo Lantern Workshop, held at the Unesp Campus in Bauru/SP. Results show that social design combined with bamboo helps in motivating people to internalize and carry out new practices due to the collaborative and collective ways of working collectively based on which it was held, and is capable of transforming scenarios and changing beliefs and values.

KEYWORDS
Social Design; Bamboo; Education for Sustainability

RESUMO
A degradação ambiental e a desigualdade social global solicitam a busca por uma educação para a transformação de valores e práticas no mundo atual. Nesse contexto, o bambu, como planta e material, tem mitigado os impactos das mudanças climáticas. Quando combinado com o design dentro de uma cadeia produtiva como a do bambu, aumenta as possibilidades pedagógicas tanto para os estudantes de design, quanto nos processos de participação das comunidades locais. Este estudo tem como objetivo analisar como o design social pode colaborar na educação para a sustentabilidade envolvendo a observação participante e a cocriação de pesquisadores, durante a Oficina Take Akari Lanterna de Bambu, realizada no Campus da Unesp em Bauru/SP. Os resultados mostram que o design social aliado ao bambu ajuda, devido às formas colaborativas e coletivas de trabalho, a motivar as pessoas a internalizarem e realizarem novas práticas, capazes de mudar crenças, valores e transformar cenários.

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PALAVRAS-CHAVE
Design social; Bambu; Educação para sustentabilidade

RESUMEN
La degradación ambiental y la desigualdad social global requieren una educación enfocada en transformar valores y prácticas en el mundo actual. El bambú, como planta y material, ha mitigado los impactos del cambio climático. Combinado con el diseño dentro de una cadena productiva de bambú, también mejora la posibilidad de una dimensión pedagógica para los estudiantes de diseño y la participación de las comunidades locales. Este estudio tiene como objetivo examinar cómo el diseño social puede colaborar en la educación para la sostenibilidad, involucrando la observación participante y la co-creación del investigador, que resultó en el Taller Take Akari Bamboo Lantern, realizado en el Campus de la Unesp en Bauru/SP. Los resultados muestran que el diseño social combinado con el bambú ayuda a motivar a las personas a internalizar y realizar nuevas prácticas debido a las formas colaborativas y colectivas de trabajo en base a las cuales se realizó, y es capaz de transformar escenarios y cambiar creencias y valores.

PALABRAS CLAVE
Diseño social; bambú; educación para la sostenibilidad

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1. INTRODUCTION

The urgency for a change of vision in favor of a non-anthropocentric mindset, one in which human beings are able to see themselves as being an integrated part of nature, is even greater nowadays, considering the present environmental crisis. It is essential, therefore, to assume a proactive and systemic approach to social design by pooling efforts, knowledge, skills and methods, making way for a more collaborative, fair, and resilient future.

With this in mind, the Take Akari Bamboo Lantern Workshop and Festival was conceived at the Faculty of Design and Engineering of the Unesp (São Paulo State University) Bauru Campus. Its aim was to generate social integration and the sharing of experiences among extension and non-extension students, residents of the Horto de Aimorés Rural Settlement, Bauru/SP's local community and participants from other neighboring cities.

The event was conceived thanks to the existing infrastructure of the Laboratory for Research and Experimentation with Bamboo - LEB and the Didactic Laboratory for Materials and Prototypes - LDMP, both based at Unesp - Bauru Campus.

LEB was founded in 1990 as part of the Bamboo Project by Professor Marco Pereira from the Faculty of Mechanical Engineering at Unesp. In this Laboratory, the Taquara Project's extension activities, based on sustainable design, have been carried out since 2009. By this means the dissemination of the culture of bamboo as a renewable raw material is introduced through training workshops in product development, carpentry techniques using bamboo in its natural or processed form, construction systems, and the generation and propagation of species. The university extension called Taquara Project has had the participation of over a hundred students who worked with rural communities, public schools, universities and the public in general. All of its activities, carried out through lectures and workshops, involve the bamboo production chain: from the harvesting of culms, production of seedlings, preventive treatments of culms, processing, the making of products, to structures needed for construction.

In the context of this laboratory, the Take Akari Bamboo Lantern workshop and festival was held in February 2020.

Take-Akari is a bamboo lantern lit by a candle or LED (Light Emitting Diode), so the Take Akari Lantern Festival literally means the Illuminated Bamboo Lantern Festival. It was originally conceived by the Chikaken group in the Kumamoto prefecture of Japan in 2007, and consists in the preparation of bamboo material for the assembly of lanterns and their collective creation, which has been held in communities around that region of Japan.

Matsuri is the Japanese word for festival and is derived from the verb matsuru, which means "to worship or show reverence". This specific object of worship for the Japanese has its origin in the native gods kami, and it is a respectful form of address, representing the communion between the gods and the community (Lee, 2013, p. 165). In Japan, traditional Matsuri festivals are known to be held till today, but are now adapted to the new social conformations and demographic conditions and with a focus on community participation, being therefore less religiously based than before (Lee, 2013). In this current context, the Chikaken Group has conceived new festival proposals resulting in a contemporary Matsuri, engaging a large number of participants and generating a communal festival experience.

Based on this, Take-Akari projects are now established as local interventions mainly focusing on stimulating the creation of networks of people, as well as serving as a strategy for attracting tourists to those areas, which until then had remained almost abandoned. With the premise of "bringing people together; connecting them to communities and to interactions with nature" (Ikeda; Mishiro, 2021), the festivals mobilize people from those communities, beginning with the preparation phase and ending with the consecration of the lanterns, which are installed and lit by LEDs. The strong potential for attracting tourists recurrent events like these have, has already been noted, and is enhanced by their ritualistic and visually symbolic characteristics. This proposition also defends the perspective that bamboo is an easily accessible material that can be cut and worked by anyone.

The Chikaken group in particular, is currently involved in several projects that engage in community development as well as in environmental protection and education for sustainability (Ikeda; Mishiro, 2021). It currently has five members and seven employees and its work consists of designing, producing and installing Take-Akari, as well as holding events and workshops in various cities of Japan and also in other countries, such as China, Taiwan, the USA, the Philippines and Brazil, among others.

The Chikaken team, based in the Kumamoto Prefecture, Japan, develops their work inspired by the Usuki Takeyoi Festival in the southern region of Kyushu, Japan, where bamboo is abundantly produced, but where, due to an emphasis on industrialization, bamboo forests have been abandoned and unused, coupled with

a traditional tourism system which is unable to meet the requirements of these new times.

When asked to create lantern scenes in urban centers they attempt to conceive the work in such a way that the lanterns become an integral part of the environment, enabling its inhabitants to recognize bamboo as a local value. They also try to establish a dialog with community leaders in order to identify new needs and elements that might be added to subsequent events. Financial resources have to exist for the workshops and festivals to be held, and that requires a search for support and sponsorship and sometimes the charging of a registration fee for those who wish to take part in them; in some cases, DIY video tutorials on how to make the pieces are offered to the public in order to support their participation.

In any case, the design of the lanterns is based on traditional or non-traditional references and can be created by festival participants, valuing the importance of people to be able to recognize themselves in them. After use, the lanterns may be transformed into objects of use or be made into charcoal, crushed fertilizer or biomass (Matsumoto; Guiotoko, 2020).

2. METHODOLOGICAL PROCEDURES

Considering that a project based on social design is made up of four basic strategies - diagnosis or recognition of its context, articulation, social learning and the construction of the notion of autonomy (Galán, 2011; Disalvo et al., 2011; Chené, 1983), this work's project was also anchored in two complementary supports: bamboo and collective work.
Those two domains are found in almost every stage of the bamboo production chain that has been in place at Unesp - Bauru Campus since 1990, from the introduction and planting of species, their management, culm production, physical, mechanical and hydraulic characterization, as well as the processing and development of products, constructions and light structures and even community training and extension activities. Figure 1 shows the diagram of the Bamboo Project production chain.

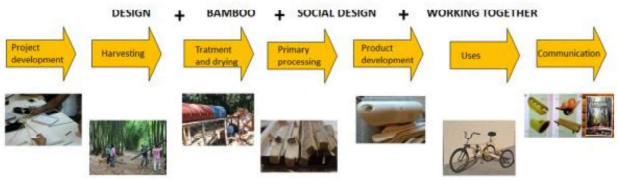

Figure 1: Bamboo Project production chain.
Source: Silvia Sasaoka (2021).

The project for this festival was designed for a maximum of 32 people involved in the production of 300 bamboo lanterns and three days were needed for the pieces to be made and installed. The precise planning of its production process had to be done a few months in advance, as detailed below.

3. DEVELOPMENT

The workshop and festival planning began in August 2019 with the objective of establishing an intercultural dialogue between Brazil and Japan using bamboo as a vehicle, in keeping with the social approach undertaken by the Japan Foundation – a Japanese government agency based in São Paulo City, which was then recently under new management. Through partnerships between the Japanese organization, FEB - Bauru's Faculty of Engineering - and FAAC - Faculty of Art, Architecture, Communication and Design, the project was also supported by the Japanese-Brazilian Association of Bauru, Sesc Bauru and volunteers from Unesp's Taquara Project. Based on previous work, the first author of this article also identified among her partners the contact of Hiroyuki Hashiguchi, a researcher and curator of bamboo in Japan and Asia who had already worked with the Chikaken group on other Take Akari Bamboo Lantern festivals.

From the dialogue between representatives of the organizing institutions, the curator from Japan and the author mentioned above, the presentation of the cultural dimension of bamboo was recognized as a representation from which both the participants and the local public could make contact with the value of this plant and material, determined by the social and cultural meanings associated with the lanterns. Furthermore, it was not a question of simply mimicking what had already been done but of creating a scenario specifically adapted to the local conditions, helping to determine which species of plant were most adequate, the type of work the participants would engage with, the infrastructure and techniques required, integrating as well the aesthetic conceptions of the local population.

The event itself could take place in mid-February 2020, three weeks before all social activities came to a halt due to the Covid-19 pandemic.

As for the creative process, due to the short timeframe available for carrying out all the activities required, it was decided that the designs on the walls of the stalks, which would have holes in them, would be developed in Japan by the Chikaken group itself. Figure 2 shows a sketch they

made, in which the final shape of the installed lanterns is organized and designed to have a visual impact. That way a strict control over the final result they wished to achieve through the project was assured. And next to it, in Figure 3, the drawings indicate small circles of varying sizes, a reference to the number of the drill bit to be used for drilling.

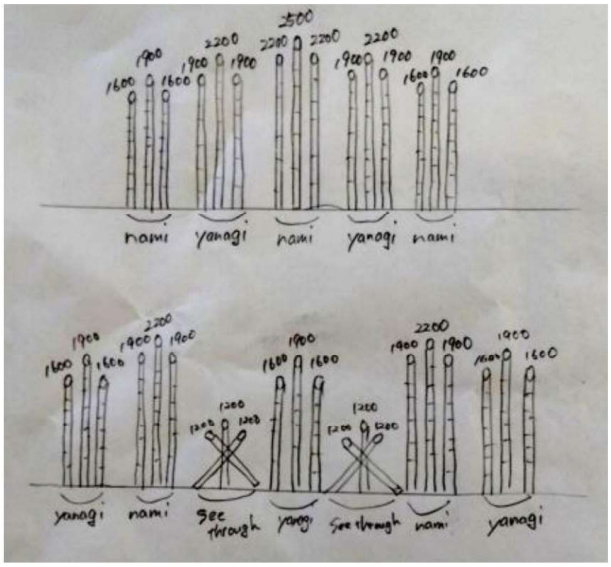

Figure 2: Drawings developed by the Chikaken Group.
Source: Personal collection of Silvia Sasaoka (2020).

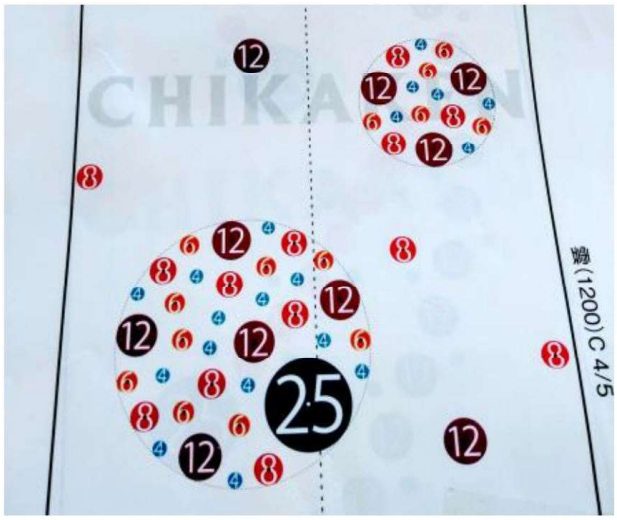

Figure 3: Project for drilling the lanterns.
Source: Personal collection of Silvia Sasaoka (2020).

Figure 4 shows the thatch fixed to the workbench with an attached mold with drawings to guide the drilling of the lanterns.

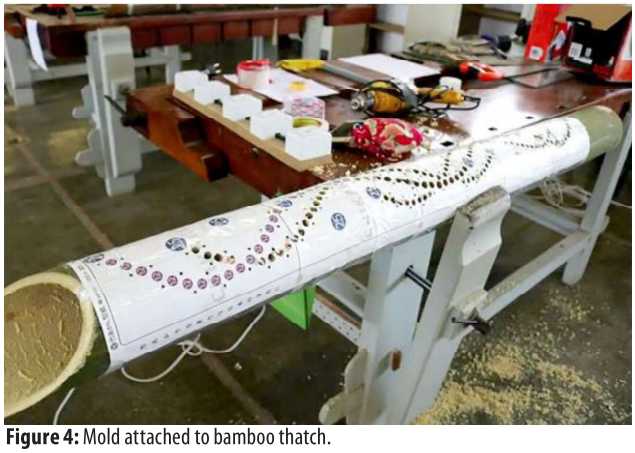

Figure 4: Mold attached to bamboo thatch.
Source: Personal collection of Silvia Sasaoka (2020).

For the installation of the lanterns after completion we chose the university campus's main square, the Praça do Bosque (n.t. 'Woods Square') considering its location in front of the University Library, which means it's a transit area for almost everyone on campus, including visitors who attend the institution. For the installation to be possible the Chikaken group received images and a plan showing the dimensions of the area from various angles. The group then sent a project with a list of requirements, quantities of stalks and lanterns, as well as other useful information.

With regard to the guidelines and preparation of the culms, their harvesting began two weeks before the Chikaken group arrived in Brazil, with the support of volunteers from the postgraduate course in design and architecture, the Clube Nipo-Brasileiro de Bauru (n.t. a Japan-Brazil Club situated in the city of Bauru - São Paulo) and former members of the Taquara group- a team of six people harvested 100 culms of the Dendrocalamus Asper bamboo species over a period of 3 days.

4. RESULTS

The guidelines for cutting the culms sent from Japan were based on the Phyllostachys Pubescens species, the Mossô, which is the most common bamboo in Japan, as shown in Figure 5. Therefore, due to the difference between the two species (Phyllostachys Pubescens Dendrocalamus Asper) in terms of the diameter and wall thickness of the culms, many adaptations had to be improvised by the Chikaken team, on site.

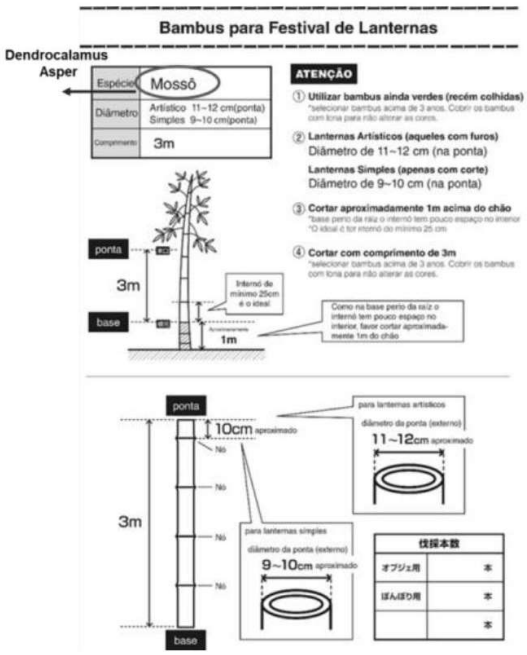

Figure 5: Tutorial for cutting the stalks. Source: Chikaken Group - translated by Roni Guitoko (2020).
Source: Personal collection of Silvia Sasaoka (2020).

After harvesting and washing the stalks, a preservative treatment was carried out at the same place the harvest took place in the agricultural area of the LEB - Bamboo Experimentation Laboratory. The 100 stalks were washed one by one with a high-pressure washer and then given a preservative treatment by immersing them in a solution of water-soluble salts.

In order to move and store the stalks and to process the bamboo and produce the lanterns, the support of a university transport truck had to be summoned. The Bamboo Project also established a partnership with the LDMP - Laboratory of Molds and Prototypes, which involved the collective work of more than 30 workshop participants.

Two months in advance, the Chikaken group sent a list of specific tools and equipment needed for each operation in the production of bamboo lanterns as well as recommendations, which were followed by the team involved:

To light the bamboos with LEDs the bamboo's diaphragms were removed with a steel rod approximately 3 meters long;

To adjust the length of the lanterns a bench saw (380 mm), a tape measure, marking pens, a long extension cord, a tarpaulin, gloves and a bamboo saw were used;

To drill the bamboo in order to install internal lighting, an impact drill, a glass saw (75 mm) and a screwdriver were used;

Before drilling the stalks, however, a piece of paper printed with the design of the surface to be illuminated was glued along the surface of each one of them.

Then, to illuminate the culms from the inside, hollow designs were formed drilling holes with a corded impact drill, a 4-12 mm bamboo drill bit, a 15-30 mm wave cutter and a 45-60 mm glass saw.

The splinters were cleaned using pliers, a long-handled brush, a stylus and an air compressor;

The following were used to assemble the structures to the lanterns: cordless impact drill, positive screwdriver bit, 2.5 mm drill bit, 30 mm fine screw, 25x650 mm bamboo slats, 25x900 mm bamboo slats, knife and rubber hammer;

Garbage bags, brooms, dustpans and industrial vacuum cleaners were used to clean the space;

To assemble the electrical installations with LEDs, different thicknesses of wire had to be used, more than 60 continuous meters for each lantern, and the LEDs were fixed to wooden or bamboo poles. These installations were produced in series.

Once ready, the lanterns were finally transported from the LDMP workshop to the campus woods to be installed before sunset. A team took care of the planned electrical installations and connections, and all the cabling was used and tested. The formalized act of lighting the lanterns could then take on its symbolic dimensions, since it is characterized as a rite. To present this rite to the public, the opening of the event was determined to take place specifically at sunset. Synchronized to the Japanese drums of the Taiko group played by members of the Japanese-Brazilian Club of Bauru, the 300 lanterns' LED installations were lit, outlining the woodland with lights and shadows. The public, made up of the local and regional community, reacted to the scene with wondrous applause, and the project's 32 participants were able to enjoy the intense work they invested in this workshop as creators of the lights. Figure 6 shows the lanterns installed in the central area of the woodland square. Figure 7 shows a different arrangement of lanterns in the same place.

This three-day workshop brought together a diverse group of people, including members of the Viverde Agro Ecological Association, residents of the Horto de Aimorés settlement, Japan Foundation's technical team, Bamboo Project researchers, former students and extension workers from the Taquara Project, volunteers from the Japanese-Brazilian Club and members of the Chikaken group, the main objective being to learn a variety of techniques using bamboo and to experience the different functions this work entails.

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Figure 6: Opening of the event at Unesp - Bauru Campus).
Source: Photograph by Thaís Ueno (2020).

Figure 6: - Arrangement of lanterns in the central area of the woodland square at Unesp - Bauru Campus.
Source: Photograph by Thaís Ueno (2020).

5. ANALYSIS OF RESULTS

As a guide for the analysis of this case study and the interpretation of its data, we used the normative framework adapted from Safoutin et al. (2000) to identify social design processes. The starting point for the gathering of information and the criteria for observation of the progressive development of a project with a defined beginning and end was as follows: the many forms of organization and planning; the process of establishing partnerships and identifying needs; the aesthetic and functional concepts adopted; the forms of cooperation or intensity of engagement; social learning or exchange and learning experiences; and autonomy inducing processes.

The results of this study show that the stages developed for the Take Akari Bamboo Lantern Workshop and Festival at Unesp - Bauru Campus are in line with the main characteristics of social design, which consist of the designing of social processes with a focus on social integration.

The design of social processes in this workshop was considered right from the start, in the conception and planning of the project. The articulation of partnerships was part of this stage, including institutional, individual and collective forms of cooperation. With the information provided by representatives of the institutions involved in the work, the design of the production process was scaled according to the number and characteristics of the participants. It should be noted that this social group was made up of people with different backgrounds, experiences and knowledge, which tested the balance between the different interpersonal relationships and the sense of belonging of each person in relation to this new working community. And so, with these human and material resources available, it was possible to find forms of organization that focused more on abilities than disabilities, which was encouraged by a sharing of power in carrying out the work.

In this sense, as demand in the bamboo production chain started to get organized, teams and individuals were spontaneously arranged, and took responsibility for the harvesting and processing of the bamboo groves, the transport logistics (loading and unloading of stalks); providing the infrastructure for processing the bamboo and the distribution of tools in the college's carpentry workshop; and for assembling and installing the lanterns. Practical experience has shown that forms of cooperation have occurred naturally between individuals, which is also attributable to the fact that, due to the culture of collective work in general, to the one that existed in the Bamboo Project as well as the previous experiences in the field of collective work of the Chikaken group, cooperation emerged in a context of stability considering the infrastructure and knowledge of the technical team, which guaranteed a swift transfer of technology to all participants. The technical mastery of bamboo and the methods and procedures for cutting, drilling and cleaning the culms applied in the collective work by the workshop conductors (Chikaken) had an impact on the participants' willingness to learn new production techniques. The way in which roles were distributed, structured according to the skills required, helped to promote a harmonious environment which enabled positive teaching and learning relationships, increasing confidence in learning.

Challenges initially emerged in the workshop, with a series of unprecedented situations in the production process. The Phyllostachys Pubescens species had until then been part of the usual repertoire of work carried out by Chikaken in other countries, while the Dendrocalamus asper species, found in the Bamboo Project's agricultural area, with its thicker, harder and heavier walls, had to be tackled by them for the first time. An adaptation of their previous knowledge to the new conditions was therefore needed. Thus, some steps were added to the lantern production process and new techniques were tested to

achieve the desired finish. These adjustment procedures were shared with all the participants, helping to broaden their aesthetic perception of the levels of demand for this learning. In this respect, Munari (1993) points out that adversity stimulates the search for new opportunities in design, which expands to other forms of "knowledge construction, sensitivity in creation, production and construction" (Munari, 1993, p. 19). They also open up new ways for designers to popularize their working methods in different countries, as long as local needs are taken into account and solved.

The study also showed that an action project took place, with the design of new ways for social groups to play a leading role through the use of bamboo. A design learning hub involved a structured set of learning situations, through the experiences postulated by Ranjan, Lyer and Pandya (2004, p. 1) of "seeing, discovering, thinking, building, modeling, communicating and evaluating", essential elements in building design competence. In the workshop, bamboo had significance not only as a material resource, but also as a cultural expression, allowing an integration of the knowledge of traditional Japanese peoples with the knowledge acquired at LEB and from the local community. From this perspective, the cultural dissemination of bamboo was then transmitted, as well as values associated with sustainability, through the systemic vision the participants had acquired working in the bamboo production chain experience they had.

The objectives of this project were therefore achieved, demonstrating the effectiveness of the method applied. The detailed planning made it possible to engage people in carrying out the design and executive stages, even though they had no previous experience with bamboo or the development of object design.

This initiative results' analysis process was structured into three guiding categories for discussion: the cultural and symbolic aspects, social integration and transferring of technology.

With regard to the cultural and symbolic aspects, results showed that participants' expectations regarding the workshop were based on the idea of the ancient relationship between bamboo and traditional Japanese culture. As a result, the rapprochement that took place between the participants revealed an openness to the cultural experience and a search for knowledge of new bamboo techniques by means of generational transmission. This notion of bamboo as a value gives it a place of symbolic relevance and makes it therefore cherished as a country's material culture. In other words, bamboo objects come to represent the story of the people who made them, what they are made of and how and why they were made, which, added to the variety of meanings they hold, helps to create their biography. Ingold (2010) explains this process stating that human skills are acquired by dynamic generational systems, contributing to the increase of human knowledge, which is then able to surpass the "wisdom of their predecessors" (Ingold, 2010, p. 6).

One of the festival's most striking moments was the lighting of the more than 300 bamboo lanterns at dusk, under the sound of drums. This experience was amplified for those who went through the collective production held in the workshop. This act or art form highlights the symbolic aspects engendered by the participants' aesthetic experience; in this case, the act of lighting the lanterns takes on a ritualistic and symbolic significance, that of celebrating a creative process and collective production, generating a sense of belonging to a community that has come together through work.

Ostrower (1983, p. 21) postulates that the "non-verbal character of artistic communication" allows art to be accessible simply by means of "intelligence and sensitivity", without the need for a learned understanding. In addition to that, Dewey (2010) observes that the ways in which we see and hear motivates our interest, and is an intrinsic part of the pedagogical dimension arising from personal choices and repertoires. According to Dewey, the aesthetic experience as a material is the social setting itself, "for its human quality, when in connection with the nature to which it belongs". "Aesthetic experience is a manifestation, a record and a celebration of the life of a civilization, a means of promoting its development, and also the primordial assessment of the quality of that civilization" (Dewey, 2010, p. 550).

Secondly, with regard to the social integration and technological transfer it provides, it can be said that, although bamboo lanterns played a leading role in this work's process, the social integration generated by the "conviviality" among everyone involved represented an "aesthetic of community life", since it took place more from the "quality of interaction between people" than from the social norms or objects created by designers (Koskinen, 2016, p. 24). In this way, it is understood that the quality of the social integration that took place was equally important to the final result of the work installed. As for the transferring of knowledge, which is commonly held in universities and shared with civil society, in this workshop and festival it took place in different ways, with the use of bamboo, associated with social design methods and

tools. The set of actions that took place, the relationships established between all the project participants and the method applied show that the process for the transfer of technology was carried out in a systemic way, which enabled people to experience each stage of the bamboo production chain.

As a caveat, there is a contradiction in the word transfer if considered as the codification and standardization of knowledge introduced into a different context from where it was originated, since in this case the learning process is open-ended, and the act of learning takes place in different ways, whenever the perception of a lack or gap, in a given situation, arises (Galán, 2011). We can therefore say that there are different transfer experiences running through the socialization processes.

Finally, considering the way technology and design were transferred during the workshop, it is important to point out the peculiar situation regarding communication between the Chikaken group and the participants, given the lack of knowledge of each other's languages (Japanese and Portuguese); that fact had an impact on the process of explaining the work and its intentions, clarifying doubts and conveying technical operations, considering there was a deadline for the work. However, in addition to the support offered by the japanese descendents who knew the native language, this interaction was also able to be resolved through non-verbal knowledge practices, i.e. tacit knowledge. Mareis (2012) points out that the particularities of design as a project, modeling and configuration and the act of presenting, imitating and experimenting are attributes common to tacit knowledge, the knowledges manifesting in a non-verbal way, expressing themselves through "visual, aesthetic, tactile, performative or gestural aspects" (Mareis, 2012, p. 67). These observations by Mareis (2012), anchored in Polanyi's work, show that the social dimension of knowledge is therefore a teaching-learning resource based on practice, specifically in the relationship between tacit knowledge, "expertise" and "connoisseur". The author also points out that this association ensures greater results. To do this, one relies on the "expertise" of a specialist, someone with special skills or knowledge acquired through training, study or practice, and the "connoisseur", someone whose knowledge has been acquired through extensive training, often having the competence to make critical judgments, as well as scientific measurements (MAREIS, 2012, p. 68).

6. CONCLUSION

Based on this case study, we can conclude that the experience of transferring knowledge took place through the process of socialization, codification and the combination of tacit and design knowledge, ending with the institutionalization of this learning, as mentioned by Galán (2011). Finally, as a result of the internalization of learning that took place, positive changes were noticed related to autonomy, as a reflection of the whole process.

The experience of the participants in the Take Akari Bamboo Lantern Workshop and Festival revealed that autonomy is an additional learning and support for the construction of knowledge, where the notion of responsibility for one's own learning motivates people to internalize and carry out new practices; it is also capable of changing beliefs, values and transforming scenarios. Exercising this autonomy encourages the maturity needed to arise, in order to face the ethical challenges needed to build a sustainability-oriented culture that offers us a system of universal values as a response to today's world.

The Take Akari Festival has given new impetus to the use of bamboo, both in the daily lives of rural communities and to their artistic expressions, and those of the urban population, due to its intrinsic qualities as a renewable, ecological and natural resource and its potential for creating products with plastic and utilitarian qualities. In this sense, the range of materials available is diverse and designers and local communities can experiment with different techniques and styles, adding the notion of sustainability to their work. Thus, in this practical experience, for all those involved, from the Japanese group promoting the initiative, to the students and staff of UNESP and the local community, bamboo was a vehicle for developing new skills and raising awareness about the environment.

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