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Convivencialidade e Design: Interação, Aprendizado e Autonomia

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Resumo O artigo apresenta o conceito de convivencialidade, criado por Ivan Illich na década de 1970. O conceito ainda é muito interessante para se repensar os parâmetros de produção, consumo e educação em nossa sociedade, uma vez que defende que as comunidades devem ter maior autonomia das instituições. Autores como Manzini e Thackara recentemente resgataram essas ideias. A Convivencialidade vem sendo associada à sustentabilidade, uma vez que reduz a demanda por bens materiais. É possível desenvolver sistemas descentralizados de ensino e aprendizagem com a internet e as redes sociais. E é possível criar objetos de maneira mais autônoma, de forma que as pessoas tenham uma participação ativa. O artigo investiga a convivencialidade na educação e no design e apresenta exemplos de aprendizagem e criação convivenciais que aconteceram em curso de Design na Universidade, e em workshops de design de bambu e de remodelagem de roupas.

Palavras chave Convivencialidade, Design, Sustentabilidade, Educação.

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Conviviality and Design: Interaction, Learning and Autonomy

Abstract *The article addresses the concept of conviviality created by Ivan Illich in the 1970s. That concept is still very interesting for rethinking production, consumption and education parameters in our society, as it defends that communities must be more autonomous from institutions. Authors such as Manzini and Thackara have recently brought these ideas back. Conviviality has been associated to sustainability, since it reduces the demand for material goods. It is possible to develop decentralised systems for learning and teaching, with internet and social media. And it is possible to create objects in a more autonomous way, so that people can have an active part. This paper investigates conviviality in education and design and presents the examples of convivial learning and creation that happened at a University Design course, and at bamboo design workshops and a clothes refashioning event.*

Keywords *Conviviality, Design, Sustainability, Education.*

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Convivencialidad y Diseño: Interación, Aprendizaje y Autonomía

Resumen *El artículo presenta el concepto de convivencialidad, creado por Ivan Illich en la década de 1970. El concepto sigue siendo muy interesante para repensar los parámetros de producción, consumo y educación en nuestra sociedad, ya que argumenta que las comunidades deberían tener una mayor autonomía de instituciones. Autores como Manzini y Thackara recuperaron recientemente estas ideas. La convivencialidad se ha asociado con la sostenibilidad, ya que reduce la demanda de bienes materiales. Es posible desarrollar sistemas descentralizados de enseñanza y aprendizaje con Internet y las redes sociales. Y es posible crear objetos de manera más autónoma, para que las personas tengan una participación activa. El artículo investiga la convivencialidad en educación y diseño y presenta ejemplos de aprendizaje y creación de convivencialidad que tuvieron lugar en el curso de Diseño en la Universidad, en un taller de diseño con bambú y en el ShareFest Honolulu, un evento que promueve la economía colaborativa.*

Palabras clave *Convivencialidad, Diseño, Sustentabilidad, Educación.*

Introduction

This research originates in the LINC-Design Lab (Laboratório Linguagem, Interação e Construção de Sentidos), which researches Language, Interactions and Meaning in Design, and is linked to the Design Graduate Program of PUC-Rio University. In this group, we discuss Design and Education from the perspective of Language Studies. This Lab considers learning as an important Design issue – learning is viewed as a multidimensional process. The research is focused on the interaction between subjects and objects/systems and between subjects mediated by objects/systems in teaching-learning situations. The focus is to steadily give meaning and reframe the reactions of subjects to objects/systems, from a point of view based on the communication that emerges from situations of use/interactions. We understand objects and systems are given meaning by individuals in interactive situations. Above all, we mean not only to contribute to the development of solutions that take into account the subjects' autonomy, but also to strengthen the Design field in terms of social responsibility. The LINC-Design Lab has done research on the use of new communication media so as to broaden educational possibilities. The Internet, together with many new softwares, brings new possibilities to the information exchange among students, teachers, and the external world. These new interaction possibilities are being investigated at the Lab.

Among the Lab's research partners, there is LILD Lab (Living Design Lab). Under the same Postgraduate Programme, this lab has brought significant contributions, especially in some studies on the development of community solutions based on sustainable design principles. LILD Lab has become specialized in the development of alternatives to the industrial mode of production, proposing the creation of objects with people participating in the manufacturing process and with building methods that are taught informally. With such method, information exchange and productive autonomy are favoured. This lab has developed studies with emphasis in the use of renewable and raw materials, especially bamboo, clay, natural fibres and resins. The objects and building methods developed should be reproduced thereafter by the communities regardless of the designer's presence in the project environment and independent of industry. The aim is to use local resources according to traditional knowledge and collective collaboration. LILD Lab's experience has been an inspiration in this research, in its experience of collective creations with natural materials.

Objectives

The ideas of Ivan Illich (1970-1973-1975), a reference that is in the foundation of the research of both labs, can help contribute to the Design field as a developer of objects/systems committed to both enhancing people's autonomy and to developing sustainable principles. Nowadays, con-

viviality is a key concept for Design either when we deal with objects or with the exchanging of information. The paper will discuss how people can create convivial experiences both for learning and for creating objects. How design could work in a convivial way – enhancing the possibility of people collaborating with one another, and producing in an autonomous way. What examples are being explored. How conviviality can help us reduce our need for more industrial goods, helping to create a sustainable society. This paper aims to answer those questions, by presenting and analysing examples of convivial design that have been either carried out or witnessed by the researchers.

Methodology

This paper will start by presenting our references, with a theoretical research on the concept of conviviality, as proposed by Ivan Illich and developed by authors who worked on this concept after him. Then, as the paper explores practical examples of convivial design, it presents and analyses some experiences that have been carried out. The researchers have used action research and participant observation methodologies, proposing and observing convivial design experiences. Such experiences are described and analysed according to our references.

Ivan Illich and Conviviality

Ivan Illich is an essential author that advocates the need for a transition in the well-being parameters of society and the importance of interpersonal relationships. In the 1970s the author writes books like "Deschooling Society" (1970), "Tools for Conviviality" (1973) and "Medical Nemesis" (1975). Illich is an outspoken critic of industrial society, which, he says, centralises and bureaucratises knowledge and production, making people dependent and with a progressive loss of their creative potential. He states that institutions lead to the loss of communities' autonomy – for example, children's education, the care of the sick, the production of goods, which were once within people's authority, are gradually becoming institutionalized and people are losing their autonomy.

Institutions and technologies have replaced interpersonal exchanges. The care of patients, which was assigned to relatives before, has been handed to the hospital. Children's education was given to the school, the manufacture of objects, to the factory. According to Ivan Illich, people should have autonomy with regard to institutions and rely more on one another. The author created the concept of conviviality to designate this proposal of society – in which people would explore their creative potential and interpersonal relationships.

Illich also highlights the importance of education and information exchange in a non- institutionalized way. He strongly criticizes institutional knowledge in our society and proposes convivial knowledge, which has spontaneous and unscheduled learning. According to the author, because of the way knowledge and production are organized today, few people know how to operate certain complex devices. In a convivial society, everyone would be able to learn, informally, how to deal with tools.

> A good educational system should have three purposes: it should provide all who want to learn with access to available resources at any time in their lives; empower all who want to share what they know to find those who want to learn it from them; and, finally, furnish all who want to present an issue to the public with the opportunity to make their challenge known. (Illich 1970, 108)

The author argues that true learning does not occur in an institutionalized way, but, rather, in a casual, informal way – just as we learn how to speak. Thus and so, education at school prevents people from understanding what should really be valued – non-material needs are transformed into demand for goods – when what really increases the people's welfare are not material goods. Illich believes that the solution is not in giving students more and more information. Neither is it in granting more devices for people to learn. Differently, the solution is in new ways of interaction among people. Learning isn't about acquiring great amounts of information, but about acquiring skills, including social ones: "The alternative to dependence on schools is not the use of public resources for some new device which 'makes' people learn; rather it is the creation of a new style of educational relationship between man and his environment" (Ibid, 103).

In terms of material goods, Ivan Illich believes a convivial society should not have an increased production, but instead, people should be able to find joy in austerity and simplicity. This proposal is quite different from our current production model, and Illich admits the challenge it is to imagine a society based on convivial tools: "It is difficult for modern man to conceive of the development in terms of reduction, and not energy and consumption increase." (Ibid, 45). For the author, the post-industrial society should establish limits – of growth and production goals. Illich proposes the convivial tool as a means to achieve a less consumptive society.

The convivial tool

For Illich, industrial society prioritizes the increasing production and consumption of goods, removing the individual autonomy and reducing interpersonal exchanges. The tools of industrial society create generalized needs, which are never satisfied – the innovation pace is very fast, which promotes a constant need for new objects, creating the idea that only what is new is good. Illich is not against innovation and creation, but not at such a fast pace.

As an alternative to such scenario, Illich proposes not the end of industrial production, but a reduction in its weight in society. At the same time, there would be a new mode of production that deals with the convivial tool:

> The fair tool corresponds to three requirements: it creates efficiency without degrading personal autonomy; it creates neither slaves nor masters; it broadens the range of personal action. Man needs a tool with which to work rather than an instrument working on his place. He needs a technology that makes the most of his energy and personal imagination, not a technology that runs over him and programs him. (Illich 1973, 24)

Thus, the convivial tool would expand the autonomy and freedom of production. Anyone would be able to learn how to use convivial tools, as long as they do not require high expertise levels. Notwithstanding, Illich's tool is a broad term – it can denote anything that is used as a means to an end – it can be an instrument, an institution. It brings autonomy for people to act in the world around them and, besides, the convivial tool could be used by anyone who wishes to do so. Illich considers the phone, the bicycle and the hammer as examples of convivial tools. The computer, the digital camera and the mobile phone would certainly be clearly acknowledged as convivial tools nowadays, due to their possibility of autonomous creation. The sewing machine and other tools for making clothes could also be considered as convivial tools, as long as they enable the autonomy of interested people. The Internet and social networks are also convivial tools, since they bring the possibility of knowledge and information exchange in a non-institutional way. Everybody can share information with the people interested in the same subject.

The paradigm of conviviality approaches sustainability in a way opposite to the industrial paradigm. The priority is not economic growth, nor is it greater efficiency in production, but it is the strengthening of local exchanges, in order to have local solutions created by the community.

Conviviality, Sustainability and Design today

In the sustainable design field, several authors have reaffirmed the importance of exchanges among people and the strengthening of communities. It is common to hear about the importance of autonomous community initiatives, without expecting solutions from the government or other large institutions. Communities can organize themselves to solve their problems, with bottom-up solutions, without having to depend on institutional responses – examples of proposals are creative communities, the establishment of local currencies, or even websites for exchange of information, goods and services.

Authors as John Thackara, Ezio Manzini and François Jégou state those initiatives are important contributions to sustainability as long as material goods lose prominence, while the coexistence among people, the exchange of experiences and the sharing of goods gain relevance.

Jégou & Manzini (2003), when addressing the transition to a sustainable society, explain we must build a system that does not overload the environment – to accomplish that, we need to reduce 90% in the consumption of natural resources. In order to achieve such reduction rate, there must be a systemic discontinuity, i.e., the changing must be of such order that we should live in a system structurally different from what we have experienced so far. For this transition to occur, the concept of well-being that is currently prevalent in our society would have to undergo some changes.

John Thackara also builds upon Illich's ideas and highlights the importance of social exchange in people's lives:

> Whole nations now worry about their social lives. There's a growing awareness that social ties are fundamental to wealth creation, economic growth, and competitiveness. The case for conviviality is that if we were to take more responsibility for our own well-being, we might rely less on care as a service delivered to us by third parties — especially the state. (Thackara 2005, 113-114).

The concept of a convivial society also has much similarity with that of a creative community, since both highlight the importance of social exchange and independent solutions. On this regard, Ezio Manzini explains:

> (...) Promising cases are based on groups of people who were able to give life to innovative solutions. And they did so by recombining what already exists, without waiting for a general system change (the economy, institutions, the vast infrastructures). Therefore, considering that the capacity of reorganizing elements into new and meaningful combinations is one of the possible definitions of creativity, such groups can be

> defined as creative communities: people who in a collaborative way, invent, enhance and manage innovative solutions to new models of living. (Manzini 2008, 64)

Manzini mentions many examples of creative communities in the world today that have created different solutions in order to bring about a radical change in our lifestyle, by means of community proposals, rather than individual projects. Such ideas are genuinely creative solutions that would considerably transform not only our vision of well-being, but also our lifestyle into a less consumerist paradigm, based on interpersonal exchanges. Manzini emphasizes the importance of changing the idea of well-being, that should not be based on products, but on experiences and sociability – which is an important parameter in the current design for sustainability and that matches Illich's ideas as well.

These proposals seek an alternative to the productivist and economic growth logics. Illich and Thackara emphasise that social interaction and mutual assistance have a key role in the individuals' health and welfare. As an example, for the authors, even though medical technology should not be disregarded, at times it inappropriately replaces interpersonal support.

Many possibilities exist nowadays for convivial learning and the use of convivial tools in Education. As Thackara (2005) puts it, the new principle is 'learning to learn' – learning how to acquire the skills and the information we need, in an informal way. Complementing the ideas of Illich, Thackara (Ibid) states that, currently, with the Internet, there is a progressive possibility of exchanging information, making people and communities more autonomous with respect to institutionalized knowledge, and enabling information for the creation of necessary things. However, the Internet cannot replace interpersonal education - because people's presence is essential in education, as states Thackara (Ibid). The Internet and social networks should be adopted to bring people closer and not to keep them distant – as long as such tools can enhance the interaction between teachers and students, increasing access to information without depending on expensive technologies. Furthermore, the information exchange made possible by the Internet is an important element for the generation of decentralised forms of social organization. The exchanges occur in a diffuse way, with each user being both producer and receiver of information – a possibility that has been very useful for creative communities, which have grown by exchanging information with distant groups. As Thackara puts it: "Different ways to share knowledge and experience also need to be explored: file sharing, peer-to-peer knowledge exchange over the Net. File sharing is not just about music: It is more important as an infrastructure and a culture that enables collaboration and interaction among learners" (Thackara 2005, 150).

Regarding convivial tools and technology, Manzini (2008) addresses the importance of using technological devices that we have at our disposal in favor of interpersonal relationships. The proposal is not exactly to create

new tools, but to use them creatively, in a non-programmed way, for the benefit of the community. With the tools currently available, particularly in communication technologies, we can create many collective solutions independent of government and large companies. Such solutions reduce the demand for even more industrial material goods, helping the creation of sustainable communities.

Figs 1 and 2. Solution proposed by first year students from PUC-Rio University Design undergraduate course for water treatment on the São Tomé and Príncipe islands. Data survey carried out based on the use of Facebook as a convivial tool for the exchange of information, knowledge and experience.
Source: Picture by authors, 2012.

Design and conviviality – possible researches in progress

Next, some convivial design examples will be presented. As a matter of fact, these include experiences that the authors observed and took part in, activities in which people take part in the objects' creation, not only learning together, but also working in a collaborative way. The first is an example of convivial learning and information exchange within the Internet, for product development purposes, and subsequently examples of convivial and sustainable building and sewing are discussed.

In line with Illich's ideas, among other research projects carried out in the Lab, there is the example of Cynthia Dias' Master's dissertation, that has been advised by Jackeline Farbiarz, another of the authors.

The research sought to observe the way the Design Department professors of the undergraduate design class from the same university view the use of both Moodle virtual environment and Facebook social network as auxiliary tools in the development of their projects. Those professors intend to understand, among other aspects, whether or not those tools contribute to the student's autonomy and how such tools interact with institutional teaching and learning contexts.

Four decades after the publication of Illich's "Deschooling Society" and "Tools for Conviviality", social media and Internet itself were considered as technologies that promote, each in its own way, the conviviality defended by the author. Conviviality has been thought to be evolved in a deschooled society in which the school is not the only institution for knowledge acquisition and propagation. The use of such spaces came from the need for closer interaction between students and the project development context – the São Tomé and Principe islands, on the African continent – with students working in groups that aimed to develop sustainable solutions in Education, Health, Transportation, Security and Culture.

Social media and Virtual Learning Environments are considered in this research as "spaces" in the sense proposed by Santos: "an indivisible set of object systems and systems of actions" (2016, 12) in interaction – in other words, as dynamic systems. Santos argues that "technical objects", such as social network sites and VLEs, are technically and symbolically used by human beings and, therefore, constitute systems intertwined with intentions. Inside these systems, interactions generate reciprocal changes:

> On the one hand, object systems condition the way actions are taken, and on the other hand, the system of actions leads to the creation of new objects or to preexisting objects. This is how space finds its dynamics and changes. (Santos 2006, 39)

Fig. 3. Students exchanging experiences for the project course on Facebook. Source: Picture by the authors, 2012

Thus, we can say that social networking sites and VLEs constitute "spaces" while their interfaces are used as technical objects to accomplish social interactions, which constitute systems of actions with different objectives, such as educational, economic or political.

Regarding the use of such spaces for learning purposes, some argue that the creation of networks of coexistence and conversation through the appropriation of technologies can enrich learning environments (Rocha 2011). However, schools and formal spaces of education are usually slow to critically incorporate practices that are already part of the extra-school culture of media uses for communication, interaction and networking. (Kenski 2008). According to Kenski, mediated action is necessary in order to develop "behaviors involving not only intellectual formation, but skills and attitudes of coexistence and citizenship" (Kenski 2008, 663). She argues that mediated action, "assumed as an educational process, can reorient individual and voluntary individual participation in networks for participation in the emerging educational community" (663).

The research results showed students, teachers, educational institutions and designers established new relationships as they interacted within the Moodle environment and Facebook, used as tools in the teaching and learning process. Following Bomfim (1999), this lab not only regards online spaces as objects and systems, resulting from design solutions, but also considers that their usage can confirm or question cultural practices. In that sense, in the research developed, each tool either leveraged or hindered actions and relations, according to the nature of the activities, the institution's involvement, the view of teachers as designers and representatives of the institution, the students' participation, and the tools' characteristics, as configured by designers.

On one hand, there were more control relations and less autonomy in Moodle, which was associated with a course on how to write a project report. On other hand, Facebook leveraged convivial and autonomous relationships among teachers, students and other subjects, which is consistent with course goals linked to learning how to do a project. Thus, such network enabled a teaching-learning relationship aligned with what Illich defended – the creation of opportunities for all individuals who want to share their knowledge to meet with those who seek that knowledge. Besides, the teachers themselves joined the community, as long as they recognized it as a valid interaction environment for the course. Their approach to such space made it sustainable, as long as they stimulated both the collective authorship and also the formal and informal knowledge sharing. All that

was retrieved, organized and made available by the members, favouring the design solutions in development, also in line with Thackara's and Manzini's reflections.

In short, the research led to understanding that information exchange made possible by the Internet was a factor to be taken into consideration in teaching-learning relationships, strengthening decentralised forms of social organization, with each user being both producer and receiver of information. Virtual learning environments and other forms of interaction available on the network favoured a move towards productive autonomy, built by the subjects-producers of virtual environments and forms of interaction, as actors in those environments.

In general, in the sustainable Design context, the conviviality proposed by Illich and retrieved by Manzini and Thackara seems to favour the Internet as a space for action. In as much as, according to Thackara (2005), conviviality provides a progressive exchange of information, making people and communities more autonomous regarding not only to institutionalized knowledge, but also to information available for the creation of necessary things. According to the author, the Internet is thus shaping up as a very useful possibility for creative communities.

Our other example is also in Design research, but in the product design area, which developed from the research of Julia Teles, another author of this paper. She did her master's and part of her PhD in LILD Lab and in her research, the author debates techniques that use local resource – resources available in the environment where the projects are developed. The researcher explores the possibility of people taking part in the production, not simply being consumers that buy from industry. She studied the use of bamboo to collectively build structures and the redesigning of used clothes in a collaborative way.

The researcher took part in the organization of two workshops in the Honolulu ShareFest, during an internship at the University of Hawaii, with the intent of exploring conviviality in order to promote sustainable solutions. The ShareFest proposes bringing alternatives to the monetarist and consumerist culture and has had editions all around the world. Everything is shared – knowledge, skills and products. The festival is organized by Shareable (http://www.shareable.net/), a non-profit movement that believes communities should create solutions to address sustainability and overconsumption issues. Large institutions, such as governments and companies, have failed in solving those problems. Movements, such as collaborative economy, open software and transition towns, have been creating non-monetary solutions for many of our problems. ShareFest is an example of convivial event that enhances the use of convivial tools and non-institutional exchanges.

The Honolulu ShareFest took place at the University of Hawaii in September 2014. There were different booths for the sharing of objects, services or knowledge – Free Bike Repair, Oahu Time Bank (a bank in which people exchange time of service), Seed and Plant Exchange, ShareFest Swap: Books and Toys, Sewing Station T-shirt ReFashion, among others.

Using her experience in LILD Lab, the researcher conducted a workshop to build a bamboo icosahedron. The bamboo was taken from the Makiki Forest, a nearby forest where people can get some bamboo if they have a permit. The icosahedron is a relatively simple structure, but the specific moves for the lashing and precise spots where the bamboos connect may be quite puzzling for the people who are building such structure for the first time. Not only the presence of an experienced builder making the necessary corrections, but also the peers helping one another, are essential in the whole process. However, building this kind of structure requires nothing but simple tools – a saw, rope, scissors and bamboo. After acquiring the know-how, people are able to build other similar structures in a convivial way. In Hawaii, as well as in many other places, bamboo is abundant, and such kind of structure can be set up in an autonomous way.

Figs 4 and 5. Bamboo icosahedron workshop in ShareFest Honolulu
Source: Picture by the authors

The other experience this researcher took part in ShareFest was the Refashionista sewing station. There were three people working in that booth, to which people brought their shirts in order to be transformed. The organizers brought their own material – such as sewing machines, pins, and scissors – and they worked with the public during the whole day. People brought basic T-shirts they were not wearing anymore to be upcycled and transformed into new outfits, according to their taste. There was a design catalogue for people to get their ideas from although other changes were created, in a dialogue between the users and the volunteers at the sewing station. The users would collaborate the way they could, by cutting and pinning the T-shirts with the necessary assistance. In the meanwhile, a seamstress was always working on the sewing machine. The users were very happy with the results and quite patient as well, since sometimes the transformation took a long time to get ready.




Figs 7 and 8. User with shirt transformed and seamstress and the ShareFest Honolulu.
Source: Picture by the authors, 2014

Figs 9 and 10. A lady looks at the catalogue of ideas and later basic T-shirt has had a collar added.
Source: Picture by the authors, 2014

The transformation of clothes is technically simple, requiring only basic skills and tools to be done, although extremely important in joining people and offering opportunities for them to rethink their clothes in a collaborative, non-consumerist way. Events such as those are the basis for the creation of a sustainable and creative approach to fashion intending to include as many people as possible.

The techniques taught in those workshops and used in the sewing station can be developed anywhere in the world, with adaptations to local materials and tools. Specifically in the United States, their development is essential, as long as that country has a surplus of prefabricated products that are made far away from certain communities, and even abroad. Such circumstances lead people to lose track of the products' origins, besides not knowing to where such materials are taken after disposal. Those workshops enabled a convivial experience, with an exchange of non-institutionalized knowledge. At ShareFest, such experience was enhanced considering that the event aims to strengthen exchanges among people in a non-monetary way, independent of institutions.

Since ShareFest, the researcher has experienced other ways of convivial creation with natural or reused materials. Such was the case of the bamboo garden house, that was built in a collective way, using local materials, in Florida in July 2018. The structure was built with local bamboo and people learnt about the structure and the lashing in order to build it together. The experience enabled the participants to understand the possibility of building something in a convivial way, using convivial tools, that enable an autonomous creation.

Figs 11 and 12. Bamboo structure workshop – building together with local materials.
Source: Picture by the authors, 2018

Final remarks

All the experiences shown in this paper strengthen both the community sense and the feeling that it is possible to create solutions independent of industry or other institutions, be it in our relation with objects or inside learning processes. The experience of using social networks for knowledge exchange has shown how those tools enable people's interaction from distant parts of the world for the development of products in a collaborative way.

The vision of Design discussed here goes beyond the traditional notion of designing objects and/or systems. The Design of the Modern Age, with its linear projective parameters and solid objects, cannot remain the same in the age of information, flexibility and at a time in which matter and energy can no longer be seen as disposable goods. We realize the most im-

portant concerns in the Information Age are not the machines themselves, but the way they can connect people, as well as the possibilities to integrate and provide interactions based on production autonomy.

Among Design's roles is that of creating contexts in which people make activities and interact with one another, establishing lighter forms for the flow of matter and energy. Design is a multidisciplinary and inclusive process that should always be under construction together with people. If Design is no longer limited to a project focused on itself, new information must be shared and included in the Design process.

We ought to reframe both the way we create, develop and share material goods (objects/systems), and the way we share information and knowledge. Specifically, in LINC-Design Lab, the path has been to always work together, enhancing the development of approaches, methods and techniques in line with contexts, i.e., with local cultures, with technologies serving as tools for shared teaching and learning processes and for productive autonomy. Such convivial solutions also reduce the demand for new industrial goods, since people create what they need with what they already have, helping to create a more sustainable society. The convivial Design experiences presented in this paper show us many solutions are already being explored and show us a path for Design to work in a convivial way – sharing knowledge, using the resources we already have and with lots of interaction among people.

Ivan Illich's concept of conviviality and Manzini's idea of creative communities are basic perceptions to help us create a new idea of Design. We believe the practical experiences presented in this paper are a direction that still has much to be explored, in terms of education, knowledge and skills exchange, and product creation. But we believe conviviality is a reality already being explored and expanded all over the world, with the Internet's aid. In this way, Design is an important tool to help to enhance the possibility of convivial and sustainable solutions today.

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