

"The need for real communication in real public space is growing in addition to virtual communication and spaces."

- Bernd Meurer

Abstract

The recent development of social media like Facebook, Twitter, Instagram, and Snapchat has extended our individual social networks and widened our social circles. For socially anxious people, increased communication via social media has also lead to decreased exposure to communication in real-life situations; this, in turn, has lead to lessened social comfort in their daily lives, and increased anxiety and panic in social situations. This study addressed the cultural contexts of social anxiety as well as the needs of socially anxious people by engaging them in joyful, low-stress social experiences. The result of this research was the development of a visual framework for mitigating social anxiety in group settings that can be applied in different social contexts. Research methods such as material practice and self-inquiry played crucial roles in this study by contributing to the investigation of the research contexts as well as the emergent design outcomes.

Keywords: Material Practice, Self-Inquiry, Social Anxiety, Handicrafts, and Exploratory Design.

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PREFACE

Glossary

Social anxiety (SA): The state of having uncomfortable feelings about social situations or in social situations. Feeling embarrassed, nervous and anxious when around people.

Safety behaviours: Behaviours used to reduce anxiety and fear when an individual feels threatened. These are typically behaviours that mediate social contact, such as avoiding social activities altogether or remaining anonymous at group events.

Social distance: The distance of ordinary conversation among friends, acquaintances, neighbors, coworkers and so on. It consists of various territories such as public space, social space and personal space, which affect the space between participants in a conversation.

Communication intensity: The frequency and intensity of interaction and communication between a group of people. It states that social activities can be categorized from very simple and noncommittal contacts to complex and emotionally involved connections (Gehl, 2011).

Social comfort: limited range

Socially anxious people: Individuals who tend to feel nervous and anxious in social situations, and who perform safety behaviours.

More introverted people: Individuals who prefer alone time, as well as individuals who feel drained after socializing and need time to recover.

Shy people: Individuals who fear attention from and evaluation by others, and who are afraid to be themselves in front of strangers and acquaintances.

Social comfort: wide range

More extroverted people: Individuals who enjoy social stimuli and feel energized after being with a group of people. Their social comfort levels may vary.

Ambiverts: Daniel (2013) explained that Ambiverts are “individuals who have a balance of extroverted and introverted features”. They may enjoy socializing and feel comfortable in group

situations, but they also need alone time to recover from socializing.

Social Fabric Workshop: A social event that is designed specifically to enable people to enjoy communicating and interacting with others. This type of event motivates people without existing crafting experience or proficient skills to join others in making crafts.

CHAPTER 1: CONTEXTS AND FRAMING

Context - Background of Social Anxiety

In psychology, social anxiety disorder (SAD) is defined as a persistent fear of one or more social situations where embarrassment may occur and where fear or anxiety of engagement are out of proportion to the actual threat posed by the social situation as determined by the person's cultural norms (National Collaborating Centre for Mental Health. 2013). While social anxiety has been defined for this research project as the fear of negative evaluation by others, and while it can cause persistent discomfort for sufferers, it is not necessarily a mental illness. Statistics from *Anxiety and Depression Association of America* show that it affects 6.8 percent of the population between the ages of 18 and 54, 36 percent of people who suffer from social anxiety report experiencing symptoms for 10 or more years before seeking help¹.

Most socially anxious people use safety behaviours as a means to prevent or minimize the possibility of having others disconfirm their unrealistic beliefs about feared catastrophes (Wells et al., 1996). Safety behaviours, however, are also an obstacle to building social networks. A social network provides the emotional, instrumental, appraisal and informational supports crucial to for a person's well-being (House, 1981). It is generally understood that various forms of social capital, including ties with friends and neighbors, are related to indices of psychological well-being (Ellison, Steinfield& Lampe, 2007). Absence of support from social networks has been shown to lead to mental health problems (Turner, & Brown, 2010).

1. Retrieved from: <http://www.adaa.org>

Personal Experience

When I first moved to Canada, I was excited about being in a new culture and curious about everything. I was also glad to meet new friends, even though I needed alone time afterwards to recover from socializing. My social anxiety did not stop me from enjoying my new environment. When I went to Emily Carr to register for classes, however, this changed. For the first time, I felt anxious and embarrassed. I saw students bunched together, seemingly everywhere. So many groups of people—yet I did not feel comfortable joining any of them. While I recognized that language differences contribute to the gap between cultures, I also knew that language is one of the few ways we have to communicate with people from other cultural backgrounds. I was nervous to make language mistakes, and worried that I would not be able to fully understand people. Experiences at school soon became catastrophes in my imagination. I felt forced to socialize. Gradually, I began to have some of the physiological manifestations of social anxiety in social situations, include trembling, blushing, and a racing heart. Uncomfortable social experiences made me feel depressed and reluctant to talk with others. Though I was outgoing in my own country, China, in Canada I became the typical “shy” girl. My fear of communicating with others drove me to self-imposed isolation. Staying at home alone became the only way to relieve the stress that was generated by my school experiences.

I hid away from most social activities in order to avoid discomfort. However, these avoidance behaviours didn't alleviate my social anxiety, and in fact they cause more problems, such as feeling depressed and melancholic.

Many international students in North America experience anxiety and stress from being far away from home, family and friends. This is especially the case for people who have a moderate temperament and come from a radically different cultural background (Fritz, Chin & DeMarinis, 2008). Social anxiety is a common problem that affects the social lives of international students and keeps them from fully engaging in the local community.

Rationale of the study

The motivation for my work is rooted in trying to understand how personal experiences of social anxiety chronically affects the social lives of sufferers. Though social anxiety is not necessarily a mental illness, it does influence people's daily lives. Almost everyone occasionally feels anxious in specific social contexts. For instance, some people feel nervous and awkward

when meeting strangers, during public presentations, or talking with superiors. While the term social anxiety describes individuals' difficulties with social interactions, its problematization also underscores our cultural bias in favor of extraversion (Fanning, 2000). Many of the most important institutions of contemporary life are designed for those who enjoy high levels of stimulation (Cain, 2012).

Social anxiety is a common problem for many people, especially introverts and shy individuals. Shy individuals often develop secondary problems such as poor self-confidence, low self-esteem, loss of motivation for change, social isolation, a degree of depression, and more generalized forms of anxiety (Heimberg, 1995). Research demonstrates that the prevalence of social phobia is significantly higher among shy persons (18 percent) than among non-shy persons (3 percent) (Heiser, Turner & Beidel, 2003).

A number of studies indicate that the productivity of socially anxious people is reduced when they are situated in open work environments. For students who are more introverted and quiet, open university environments like classrooms and libraries negatively impact their productivity and work efficiency. In the context of art and design, open work environments also affect creativity.

Research Goal and Objectives

My research activities started by asking the following questions:

- What are the obstacles that socially anxious people face when they wish to socialize with others?
- How can we diminish negative thoughts around socializing experiences?
- How can we alleviate social anxiety in social contexts for socially anxious people?

The goal of my work has been to examine the factors that impact participation by socially anxious people in occasional social activities, and to provide resolutions that may motivate their participation and interaction with others. Enabling engagement in-group activities and facilitating communication and interaction are important aspects of this work.

There are two primary objectives for this research. First, to enable socially anxious people to accept comfortable social experiences through the use of design by providing a means to help people navigate through social contexts. Second, to provide socially anxious individu-

als with the means to improve their confidence and tolerance of social stress. Both of these objectives are linked to the common aim of improving the individual productivity of socially anxious people in open workplaces that contain a wide range of social interactions.

Scope and Limitations

I limited the scope of my work in several ways: First, I focused on the consequences and behaviours of social anxiety. Shyness and introversion overlap and interrelate in psychology. My study did not address the differences between shyness and introversion, but instead focused on researching ad hoc safety behaviours and the contexts where these problems arise. Second, as the peak age of onset for social anxiety is in the teenage years (Sadock & Sadock, 2011), I limited the main user group to college students and people with social anxiety who are eighteen years and older. Last, the structure of the handcrafting workshop introduced a level of awareness to the emotional influences and physical effects of communication through specific gathering activities.

CHAPTER 2.

DEVELOPMENT OF RESEARCH

Methodology

The methodology for this study is founded on a combination of theory, material practice-based research, and exploratory design research. Social anxiety can be a vicious circle of negative thoughts and contributing safety behaviours. Since my design research question arose from personal concerns, qualitative data was collected, and a heuristic approach in which it is assumed that the self of the researcher is present throughout the process was taken (Given, 2008). This approach allowed me to gather and determine the original factors that cause anxiety for myself and others in social situations. My primary research methods consisted of self-inquiry and participatory research. Data collecting methods included interviews, participation, observation, and probes.

Material practice based research

Craft is “a dynamic process of learning and understanding through material experience” (Gray & Burnett, 2009). It is a means to logically think through the senses. When manipulating a tangible material, a craft artist establishes a rhythmic interplay between bodily and thinking practices (Nimkulrat, 2010). For this reason, as Nimkulrat explains, “the process of making... can unpack creativity and help express ideas by creating awareness of certain features of the material” as “materials seem to serve as physical entities while their conceptual problems have been little considered.”

Crafts can alleviate symptoms of physical and mental disorders and stress, and help people to build strong relationships with the people around them (Yair, 2011). In my preliminary research, I found success in using material practices as a research method to question the context of social anxiety. A number of handcrafts, including as knitting, weaving, and crochet, were used to investigate the problem space of social anxiety and explore the research context in full. These explorations further informed my later research, where I applied knitting both as a method to explore handcrafts as well as a medium to engage in social activities.

The social and psychological benefits of knitting

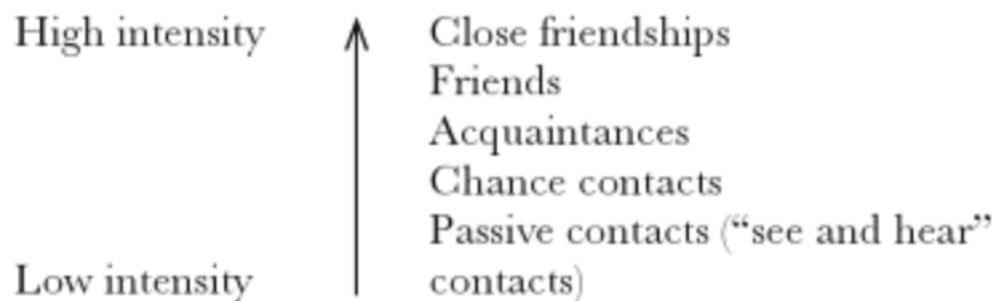
Among the many kinds of handicrafts practiced around the world, I chose knitting because knitting offers psychological and social benefits for people's well-being (Riley, Corkhill, & Morris, 2013). Knitting is a skill that people can learn easily and fairly quickly; after they've mastered the basics, knitters can develop additional proficiency incrementally. The rhythmic and sensory nature of knitting can be calming, with potential meditative and therapeutic qualities (Corkhill, Hemmings, Maddock & Riley, 2014).

Many social anxious people experience stress because they over-scrutinize their surroundings. Knitting is a therapeutic medium that encourages concentration on hand movement, thus distracting attention and in turn alleviating some anxiety. In social terms, knitting has the capacity to bring people together and in doing so enables stronger connectedness with others. Black (2012) discussed the historical importance of social knitting in rural communities where groups of knitters gathered to knit and talk after a day's work.

Preliminary Research

As noted earlier, I developed the following research question: What are the obstacles that socially anxious people face when they wish to socialize with others? In order to test cultural and contextual assumptions that social distances influence on people's social behaviour, I conducted research activities at a residential district in China from May to July 2015. I observed people's behaviour in different public areas in order to see how physical conditions affect their communication intensity (see Figure 1).

My summer research in 2015 explored the relationship between behaviour and social distance. The research demonstrated that the rhythm of social distance and the accessibility of public spaces had a significant influence on communication intensity. These elements are



(Figure 1: Communication Intensity, Retrieve from: Life between buildings)

crucial to keep in mind when developing design approaches for socially anxious people in social situations.

Theoretical Framework

The theoretical framework consists of research approaches of heuristic inquiry and phenomenology, and principles of emotional design and meta-design. I used these research approaches as instructional references for my research context inquiry and design solution proposals.

Heuristic inquiry

Heuristic inquiry is a research method that is directly concerned with human knowledge and self-inquiry (Given, 2008): “As the research topic was motivated by personal concerns, HI enabling the researcher growing self-awareness and self-knowledge, promoted by self-search, self-dialogue and self-discovery throughout the process.” Self-dialogue is the critical beginning of this process; heuristic inquiry recognizes that the best place to begin to discover the qualities and components of any given experience is to begin by studying the researcher. It is critical to design a social context that engages people in interactions and then generates qualitative data from the observation of relations between people and objects. To investigate the social experience of socially anxious people, “self-dialogue is the critical beginning; the recognition that if one is going to be able to discover the constituents and qualities that make up an experience, one must begin with oneself.”

Self-inquiry research methods were employed to explore people’s social behaviours and their response to environmental components. Because most socially anxious people feel uncomfortable being filmed, it was difficult to document research by audio and video. Self-inquiry research methods therefore became integral to my work.

Phenomenology

Phenomenology may be understood as a method for investigating the cognitional structure of experience. A phenomenological approach revealed a predictable four-phase, recurring cycle of Preparation, Experience, Recovery and Reflection (Fanning, 2000). It provided

theoretical guidance when I explored how socially anxious people experienced situations, therefore structuring design propositions for the research problem. The phenomenological approach enables the researcher to understand the nature and meaning of an experience for a particular group of people in a particular setting (Glaser & Strauss, 1967). With the objective of exploring the factors that facilitate people's communication and interaction, I therefore designed the social event in three stages according to the social experience framework. A social experience can be divided into three stages, with several components to be unpacked in each stage: what motivates people to engage in a social activity (Preparation)? How should their interaction and communication be facilitated during the process (Experience)? What steps should be taken to encourage socially anxious people to rest and recover from socializing that has drained their energy (Reflection)? Do safety behaviours protect us from social confrontation or act as an obstacle to social engagement? These questions cannot be answered only through self-inquiry research. Therefore, using a phenomenological framework, I designed a social event to investigate and unpack people's social experiences.

Meta-Design

Meta-design is an emerging conceptual framework aimed at defining and creating social, economic and technical infrastructures in which new forms of collaborative design can take place. Hethrington (2009) explained that meta-design emphasizes the design process that creates a context for people to express their ideas and needs². This design process involves the engagement of participants, enabling those who are experiencing the problems to act as designers in the solutions to those problems (Fischer, 2003).

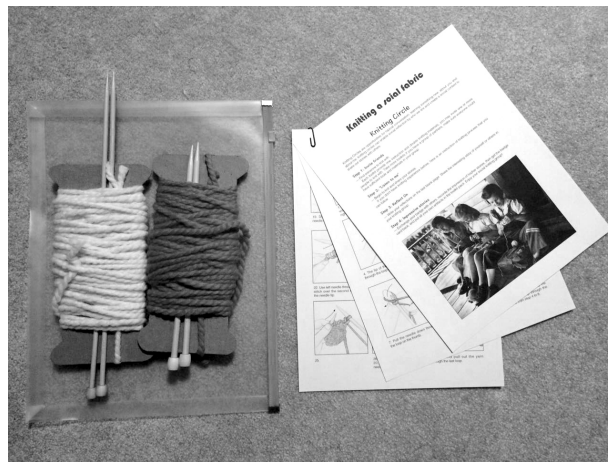
Meta-design is a design practice that emphasizes the processes and models that can be used to create socio-technical environments in which people can be creative. By focusing on the general structures and processes, rather than on fixed objects and contexts, meta-design seeks to better anticipate unforeseen changes with an eye toward adaptation (Giaccardi, 2005). Based on my understanding of meta-design principles, I proposed a social framework for socially anxious individuals in which they could use the tools provided in order to express their ideas and needs. Because social anxiety is a vicious circle of negative preconception and social withdrawal, it was more appropriate to design a context in which participants could learn crafts through making and interact with others situated in the same context, rather than design products that focused specifically on individual behaviours.

2. What is meta-design anyway? Retrieve from: <http://www.christopherhethrington.com>

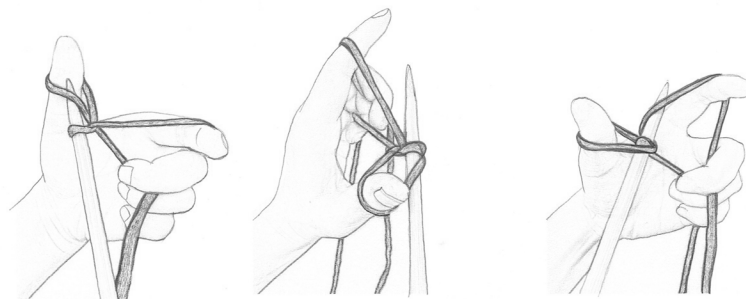
Primary Research: Self-Inquiry

Material-based practice played a crucial role in my primary research. I acted as both researcher and research subject. The dynamic process of making and thinking enabled me to immerse myself in two roles at once, informing different perspectives when I moved between each role.

Prior to going to the meet-ups, I had no experience with or knowledge about knitting. By attending a series of knitting meet-ups, I learned knitting techniques from expert knitters. I recorded my experiences at these meet-ups to reflect on effective learning techniques for new knitters, and to explore the barriers that might prevent socially anxious people from communicating with others in these situations. I collected qualitative information from these primary research activities in several ways: I wrote diaries to record my personal feelings during the meet-ups; I took observational notes on the physical environment, people's behaviour and their interactions; and I interviewed group members after the meetings. I was particularly interested in the verbal and nonverbal communications of different individuals.



(Figure 2: Knitting toolkit)



(Figure 3: Knitting toolkit - Illustration of Knitting Method Card)

Design Questions

Through preliminary and secondary research, I addressed one main question: Can a design system enable socially anxious people to have a comfortable social experience? Here are four assumptions that contributed to design outcomes:

1. Socially anxious people can be encouraged to engage in social activities if they are motivated to do so.
2. By using specific instructional guidance and providing assistive tools, it's possible to decrease the social anxiety of socially anxious people in social occasions, making them less likely to avoid or exit social interactions.
3. Most individuals need alone time to recharge.
4. Positive reflection on social experiences can help reduce anxiety.

Referring to B. J. Fogg's Behaviour Model, three elements must converge at the same moment in order for a behaviour to occur: motivation, ability, and trigger. To make people comfortable, a social handicraft event needs to provide motivational factors for participation, give participants the tools they need to learn and make their craft, and provide the context in which they may comfortably communicate with each other.

CHAPTER 3.

DESIGN OUTCOMES

My final design outcomes include a Social Fabric Workshop, including a series of prototypes designed for this workshop and a Framework for Social Experiences. The Social Fabric Workshop is a system that includes a social event at its core. This event aims to bring people together in a comfortable social experience by providing a framework that helps them navigate through social situations. By anticipating and analyzing people's behaviours and the physical environment of a social event, a framework is generated that includes considerations for various factors contributing to a comfortable social experience for socially anxious people. This framework can then be applied to other social contexts.

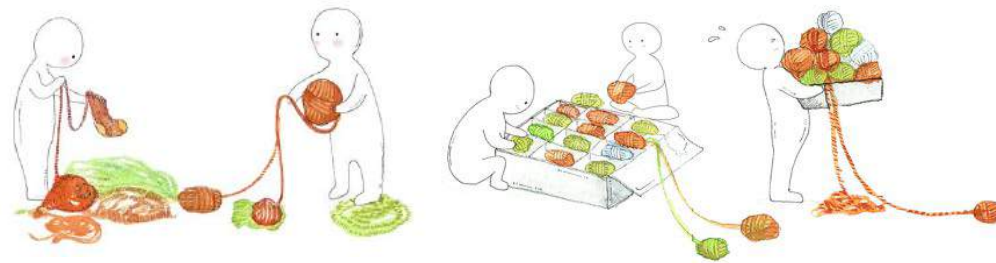
The Social Fabric Workshop

The Social Fabric Workshop (illustrated on page 16) is a handcrafting social event that was designed for socially anxious people. The intent of this workshop is to provide socially anxious people with an opportunity to have a comfortable experience interacting with others. Rather than designing functional objects that can be only used in specific conditions, this social event focused on creating a general structure that would help people to navigate through difficulties in social contexts.

The activities of the workshop were designed so that the handcrafting process might distract socially anxious people, who are prone to overanalyzing social situations, from engaging in overanalysis. The goal of this was to help reduce their nervousness. Workshop activities were divided into three stages: Preparation, Collaboration and Rest. Each stage included some combination of handcraft making, such as knitting, weaving or crochet. In addition to learning different handcrafts, participants also had the potential to develop their craft skills further in the Collaboration Stage.

People who are socially anxious need more time to prepare for and recover from socializing (Helgoe, 2013). While the social workshop was designed primarily to support socially anxious people in navigating social contexts, it also has benefits for people who don't suffer from social anxiety.

PREPARE



Undo

Roll

Organize

Transfer

* Pull on the end tail to unravel knit objects. Take apart the object to get recycled yarn.

* Roll recycled yarn into a ball, and put it into the collecting box beside.

* Categorize yarn balls according to different color/material/weight.

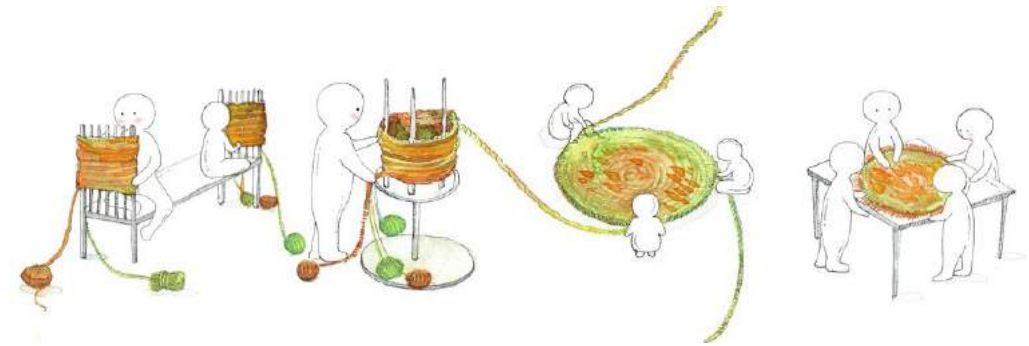
* Categorize yarn balls according to different color/material/weight.

Stage 1: PREPARE

In the first space, you will get to know the process of this workshop, and the instructions of each activity.

You may take a card after complete the activity. The more activity you participate, the more cards you will collect.

COLLABORATE



Stool Weave

Install Chunky Yarn

Carpet Weave

Carpet Decorate

* Wrap yarn through the dowels, cut the vertical threads and tie knots after finish.

* Join some thin yarn to a thick one to create chunky yarn. Install the yarn on the spin for carpet weaving.

* weave a giant carpet by cooperating with others, find out new weave methods.

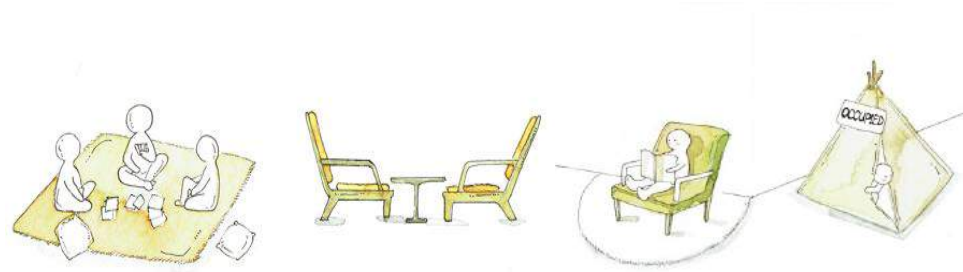
* Tying yarn around the edge to decorate the carpet.

Stage 2: COLLABORATE

In the second space, you are welcome to take part in (a) collaborative activity (or activities), learning crafts and socializing with others.

This space aims to provide a joyful social environment for each individual, either introverts or extroverts.

REST



Small Group

Casual Chat

Reading Corder

Isolation

* a place for playing.

* a place for casual chat.

* a secluded place for reading.

* an isolated place for rest.

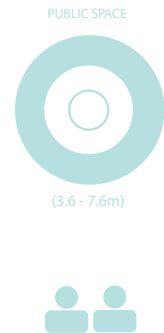
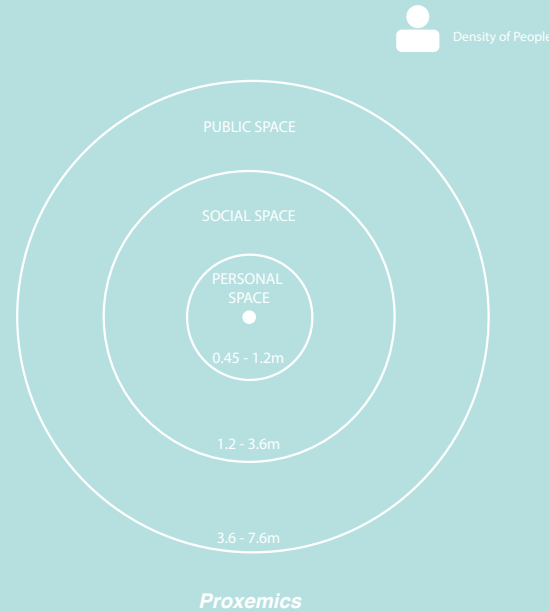
Stage 3: REST

There are four separate spaces to rest; you may choose the one you like to have a rest.

These spaces aim to provide

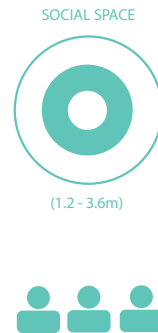
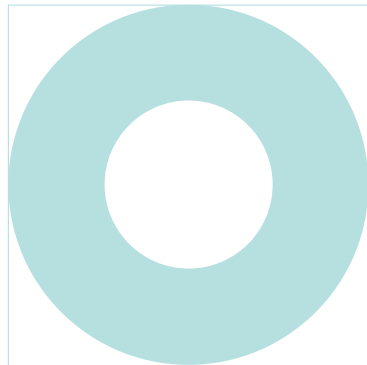
secluded environment for participants to recover from the social activity, especially for people who will feel drained after socializing.

SPACE ARRANGEMENT



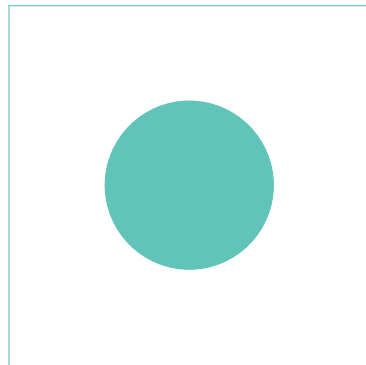
“PUBLIC SPACE”
a place where one may freely enter. This type of territory is rarely in the constant control of just one person. However, people might come to temporarily own areas of public territory.

Area of Prepare activities



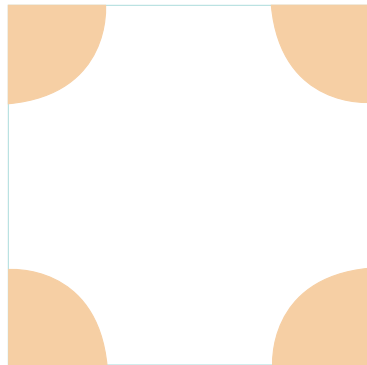
“SOCIAL SPACE”
a place where people congregate informally. In this distance, people can easily perceive others’ physical behaviors, such as body posture, gestures, eye movement, touch and the use of space.

Area of Collaborate activities



“PERSONAL SPACE”
The region surrounding a person which they regard as psychologically theirs. Personal distance for interactions among good friends or family. It also convey the concept of “isolation” in this situation.

Area of Rest activities

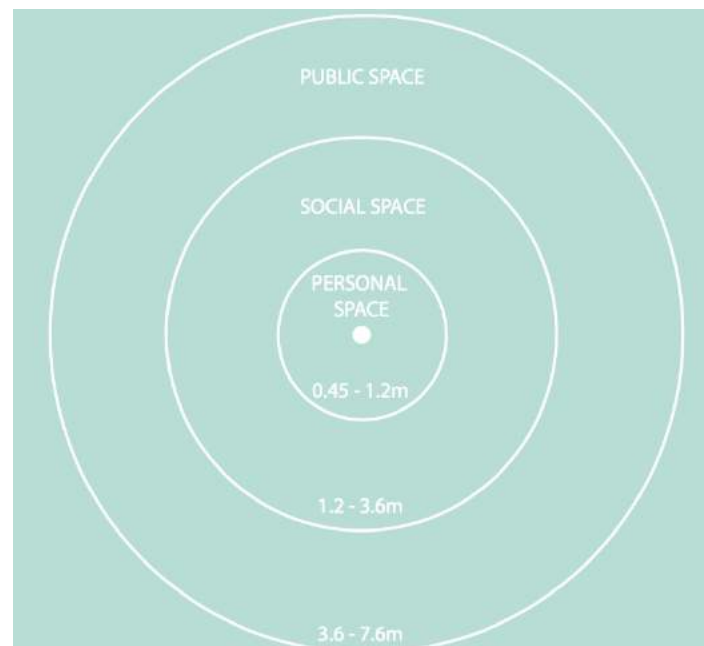


Based on my observations from test workshops and knitting meet-ups, there are two crucial principles that help to structure the elements that affect people's behaviour:

- The framework for social experiences
- The navigation of comfortable social distances

Social distance

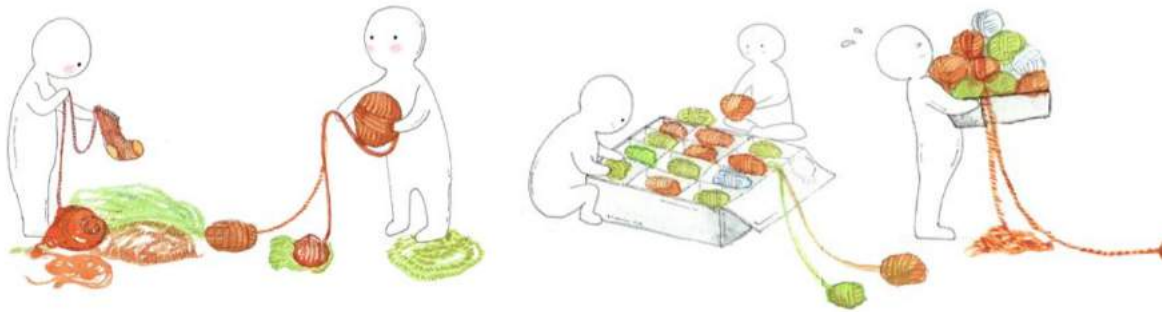
Social distance plays a crucial role in this project as it embodies the relations between people, activities, and the physical environment. Proxemics proposes three kinds of spaces (Figure 4): Public Space, Social Space, and Personal Space (Lang, 1987). In my research, the distance range did not translate precisely to human behaviour, but rather provided a system to gauge the effect of distance on communication and how this effect varies based on cultur-



(Figure 4: The distance of different territories in Proxemics)

al and environmental factors (Hall 1963). For example, in the Social Fabric Workshop, I arranged the physical workspaces according to three kinds of distances. Activities were placed at different measurable distances. The intent was not tell people how to behave but, rather, to have an influence on people's interaction with each other. I wanted to encourage a specific behaviour to happen rather than overtly telling people what to do. This spatial system was used to guide the design structure of the Social Fabric Workshop and analyze how space elements affect social activities and people's behaviours.

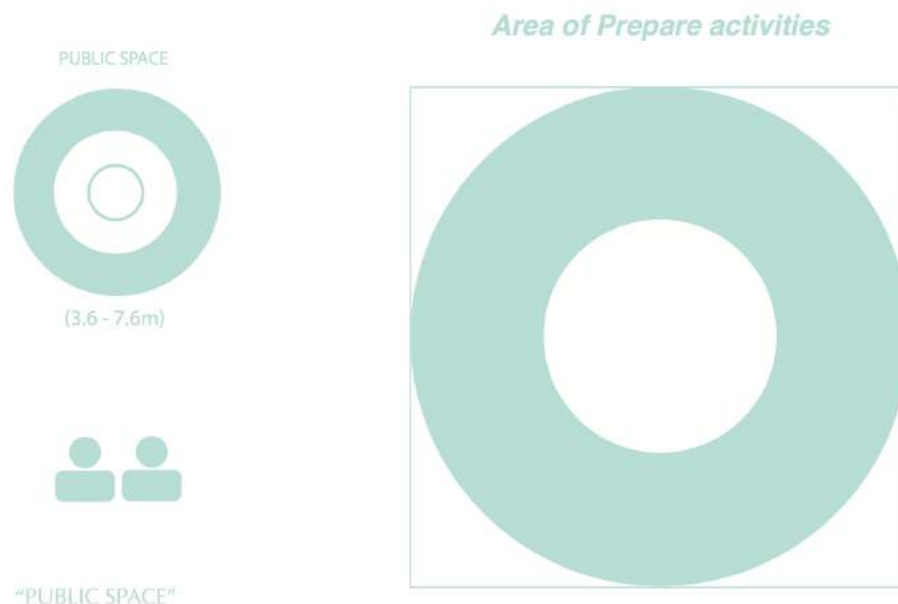
Preparation Stage



(Figure 5: Prepare Stage of The Social Fabric Workshop)

The objective of the activities in the Preparation Stage (Figure 5) was to lower the negative preconception of social contexts for social anxiety. Socially anxious people often arrive at an activity with negative preconceptions, which influence their desire to participate or avoid in the activity. For this stage, I had one main question: How should we motivate socially anxious people to engage in a social activity?

In the Preparation Stage, people were encouraged to enter an open space where they would quickly understand the elements of the whole workshop through a visual illustration. This illustration was designed to clearly articulate what the workshop was about, and how people

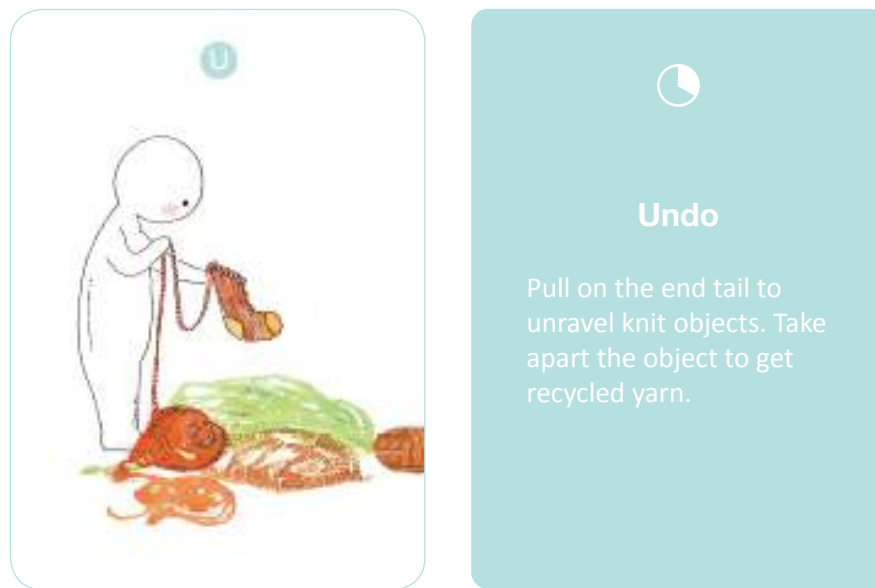


(Figure 6: Space Arrangement of Prepare activities)

could take part. This illustration helped people to acclimatize to the expectations and guidelines for the activities before committing to them. Though activities were held in a relatively open space, people could still do their work individually. The basic crafting activities enabled novices to engage in work without being disappointed or hindered by limited skills.

The notion of Public Space was applied in the Preparation Stage (Figure 6). Activities were held in an open space where people could freely enter and temporarily own a specific area. Activities in this stage were primarily aimed at facilitating communication and familiarizing interaction.

In order to encourage the socially anxious to engage in the workshop, a few participatory objects were provided (these were intended for use in the first stage but could also be used in the second stage). First, a set of illustrated Method Cards (Figure 7) was designed to help people navigate through the workshop by providing visual illustrations and hints for each small activity. Participants could get basic information from the illustrations such as the workspace location and general instructions about the activities.



(Figure 7: Front side & back side of Method Card)

Second, participants received a badge aimed to encourage them to talk with others. Seven pairs of patterns (Figure 8) were designed, each with at least two or three matches so that people could match their interests with interests shared by others. These patterns directly expressed a visual metaphor designed to elicit conversations relative to the activity.



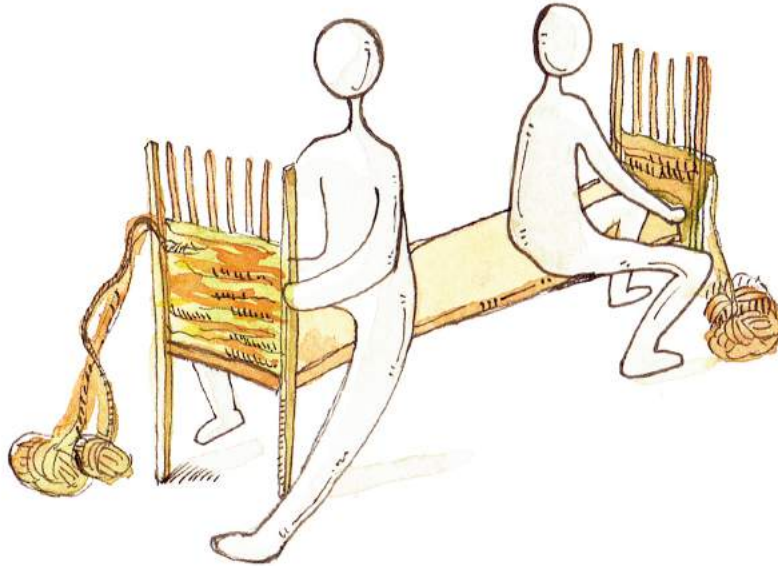
(Figure 8: Badges illustration)



(Figure 9: "Conversation Trigger" badges pattern)

Communication

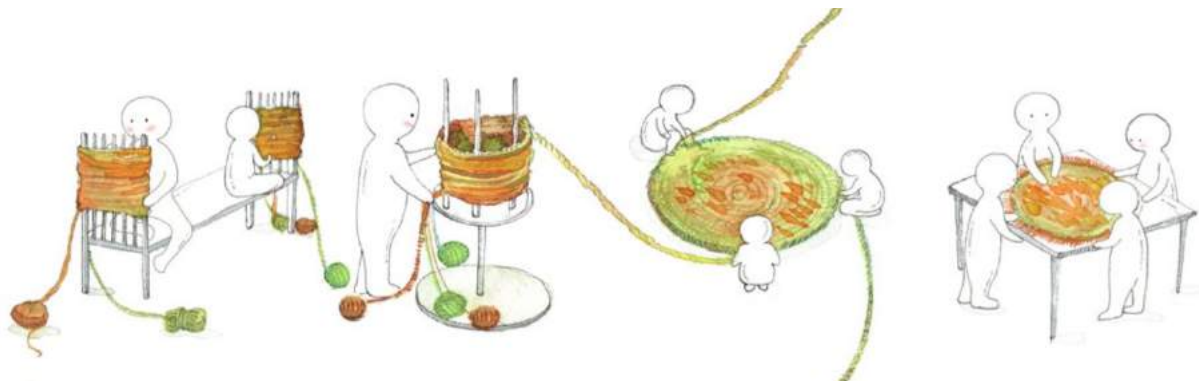
Communication in the workshop was generally defined as either verbal or nonverbal. Non-verbal communication refers to actions that are distinct and separate from speech. It includes facial expressions, hand and arm gestures, posture, positions, and various movements of the body or the legs and feet (Mehrabian, 1977).



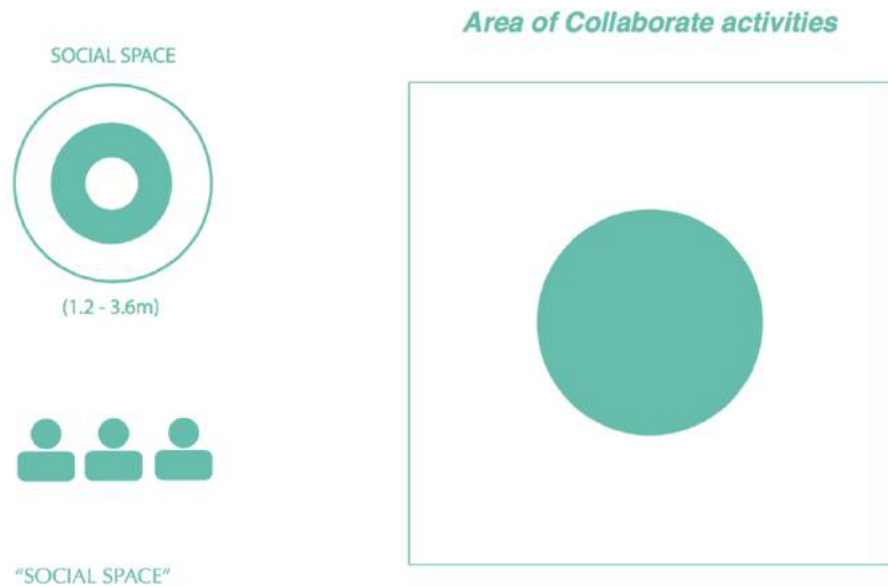
(Figure 10 : Bench Weave: Collaboration Stage)

Collaboration Stage

In the Collaboration Stage, people were encouraged to gather at a specific social distance. Proxemics notes that distances of 1.2 metres to 3.6 metres allow people to talk and interact in way that can potentially lead to developing a closer relationship. (Karakayali, 2009).



(Figure 11: Collaboration Stage of The Social Fabric Workshop)



(Figure 12: Space arrangement of collaborate activities)

In the Collaboration Stage, people gathered in small groups. Opportunities for nonverbal communications were embedded in this stage to facilitate engagement. There were activities designed for socially anxious people as well as more extroverted individuals. The carpet weaving activity, for example, sought to encourage a lively social context for a group of extroverts to work and chat. It was designed for people who enjoy lively environments.

The bench weaving activity (Figure 13) consisted of a weaving bench for two. The illustration (Figure 10) depicts the scenario: people who are shy and anxious in social spaces (1.2 metres to 3.6 metres) can gradually get closer in order to engage in face-to-face communication. There were several key considerations behind the design of the bench weaving activity: First, the activity allowed participants to avoid facing each other at the beginning, because socially anxious people might feel uncomfortable about immediately being forced to cooperate face to face. Second, the activity sought to elicit nonverbal communication, as I had found in my literature review that shy people often initially rely on nonverbal communication to assess a social context (Burgoon, Guerrero & Manusov, 2011). Socially anxious people often negatively process social cues (Zaki, 2013); they scrutinize everything others do around them by observing body language, tone of voice, and the ways others look at them, among other things. The bench weaving activity allowed people initiate their engagement with the activity by sitting back to back. This allowed for participants to avoid uncomfortable silences that often occur when meeting strangers. It also provided a chance for new interactions. The bench is suitable for a variety of scenarios, whether a person comes alone, sits with a stranger, or is accompanied by a friend.



(Figure 13: Bench Weave: Collaboration Stage)



(Figure 14: Pilot test of Carpet Weave)

Rest Stage

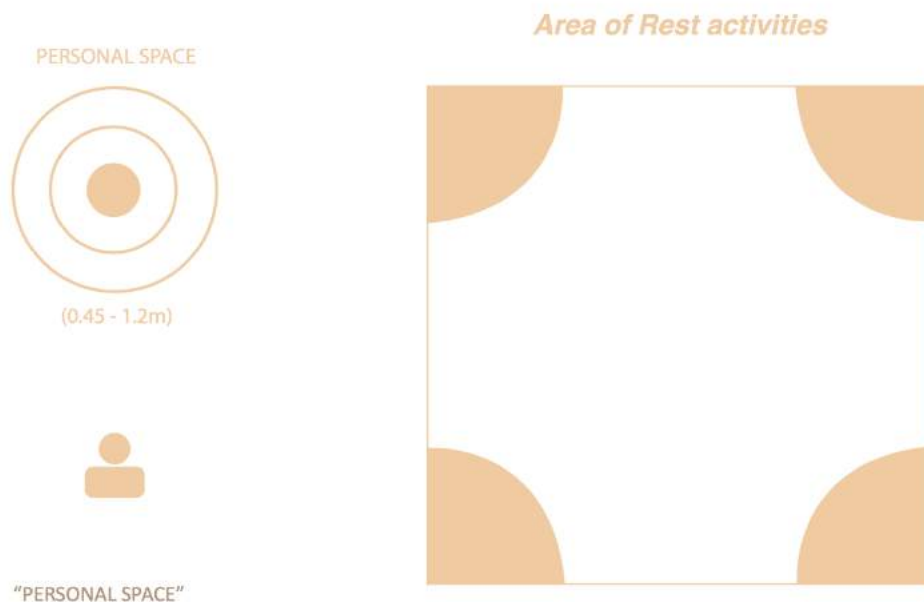
Research shows that socially anxious people need a reprieve or rest after socializing because, due to their mild temperaments and introversion, they often find socializing to be physically draining (Burruss & Kaenzig, 1999). A Rest Stage was therefore designed to allow socially



(Figure 15: Rest Stage of The Social Fabric Workshop)

anxious people to reestablish comfortable personal space and give them some alone time. During the Rest Stage, participants were encouraged to recover and reflect on their own experience. Establishing personal space during this stage is very important for some individuals, as those with anxiety traits have been found to seek out more distance and isolated spaces (Holmes & Spence, 2004). For more extroverted people, Spaces were prepared for more extraverted people to play or reflect informally; socially anxious people were provided with isolated or secluded spaces to rest and adjust.

The space arrangement in this stage (Figure 16) makes use of Proxemics' identification of Personal Space as the region surrounding a person that they regard as psychologically theirs



(Figure 16: Space Arrangement of Rest activities)

(Hall, 1963). Personal space is a good place to facilitate interactions among close friends or family.

Objects of Reflection

In addition to the design and consideration of the collaboration and rest spaces described above, reflective objects were designed to inspire participants' reflection about social anxiety in specific scenarios. These objects were embedded within the social contexts of each stage and were distributed as parting gifts for participants. The gifts were intended to encourage positive reflections after socializing. These portable products allowed people to reflect on social anxiety and safety behaviours when they used these products in specific conditions.



(Figure 17: Ear Cups)

Socially anxious people often like to be left alone when they are in lively environments filled with lots of people. Eventually, they do get used to these situations, but the nature of social anxiety still drives individuals to be sensitive about their surroundings (Kodak, 2013). For instance, some people often use cellphones to distract their attention or reduce the awkward feelings in social contexts (Helbig-Lang & Petermann, 2010). The concept behind the design of the objects of reflection took into consideration the ad hoc safety behaviours that help users to hide themselves in public situations: the Ear Cups (Figure 17) seek to offer privacy from others when the user puts their head up to drink; the Glasses Raincoat (Figure 18) is intend-

ed to help people hide when they encounter acquaintances. Safety behaviours contribute to a vicious circle when it comes to social anxiety: those who tend to hide or shy away from social occasions may become more isolated from their social networks and social supports, and this in turn may aggravate their social anxiety (Wells et al., 1993). Those objects were designed to create an inverse scenario: when using these products, socially anxious people might actually become more noticeable. These designs might lead their user to question: Why do we hide ourselves? What are we afraid of? Is it helpful to avoid socializing to alleviate social anxiety?



(Figure 18: Glasses Raincoat & Umbrella)

The Social Fabric Workshop is aimed to facilitate a joyful social event for all. Reflective objects are used to encourage contemplation of avoidance behaviours as well as the negative preconceptions that we may bring to an event or social context. The Social Experience Framework is intent on encouraging people to organize or attend more social activities. The objective of this whole system was to encourage socially anxious people to communicate and interact with others, to build their confidence, and to help them learn to tolerate the pressure of social stimuli.

Framework for Social Experiences

Grounded theory is a systematic methodology in the social sciences involving the construction of theory through the analysis of data (Martin & Turner, 1986). My study began with a re-

search question and the collection of qualitative data. I then designed a workshop to observe behaviours and gather further qualitative data that could be interpreted into categories and used to develop a theory.

As noted earlier, my work seeks to identify the obstacles that prevent socially anxious people from participating in social situations. By collecting data through self-inquiry, I was able to respond to this question and to explore new queries, for example, how best to design a comfortable social experience for socially anxious people. As I reviewed my data, reflecting on my experiences and observations with the aim of developing a new instructional framework for the design in different contexts, some repeated ideas and elements emerged. According to the precepts of Grounded Theory, these repeated ideas offer an opportunity for coding and categorization in order to develop new theory (Martin & Turner, 1986), in this case about the potential for handicraft workshops to be used to mediate social anxiety.

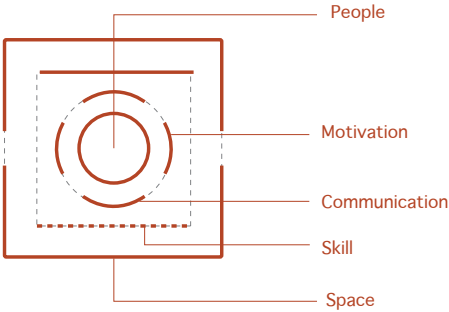
My research activities in the summer of 2015 and my Social Fabric Workshop pilot tests helped to develop a visual framework to help socially anxious people to navigate social activities. My research on the relationship between public space (see section 2.1.3, Preliminary research) and people's behaviours informed my understanding of the importance of spatial environment to interaction. Here are few summarized statements based on that research:

1. In public spaces, the accessibility and openness of public areas influences people's communications and interactions. Low-intensity communication tends to take place at easy-to-access, open spaces, while high-intensively communication is more likely to take place in multi-divided, enclosed spaces.
2. The size of the group involved in a social activity affects the behaviour of socially anxious people. Socially anxious people often shy away from areas where a large group of people have gathered or feel stressed in one-on-one conversations.











By testing the Social Fabric Workshop, I found that individual participation depended on personal motivation, which was either driven by personal interests (for example, wanting to learn how to knit) or task commitment (for example, wanting to help others finish their project). An individual's skill level in a given group activity also impacts their commitment to that activity.

This diagram (Figure 19) illustrates five main social experience components that I developed by reflecting on my observations of public spaces in my preliminary research in China, and

by participating and organizing social activities in the Social Fabric Workshops. This chart depicts the meanings behind each element and symbol:



(Figure 19: Five components of social experience)

1. People	 - work individually	 - work collaboratively
2. Motivation	 - task commitment	 - interpersonal attraction
3. Communication	 - low-intensive	 - high-intensive
4. Skill Variation	 - minor	 - major
5. Space	 - closed space	 - social space

(Figure 20: Description Five components of social experience)

- **People:** Individuals who engage in an activity either alone or as part of a group.
- **Motivation:** The general desire or willingness of someone to do something; the element

that drives people to participate in social activities, either for personal interest or because of task commitment.

- **Communication:** Means of connection between people. Communication can occur at different levels of interaction. High-intensity means a high level of interaction with others while low-intensity is the opposite.

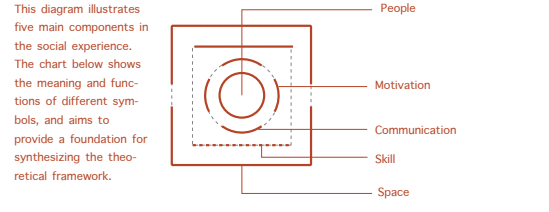
- **Skill variation:** The level and range of skills exhibited by people in a group.











- **Space:** The physical and psychological environment of social activities. Closed space means that the space is physical exclusive, with small social distances; as a result, the space feels difficult to enter.

The diagram above (Figure 20) is a visual illustration of elements that assist in developing a new theory of social experience design for socially anxious people. The objective of this chart was to build a visual system that analyzes the factors and relations of different elements in the Social Fabric Workshop (see page 33). This system provides a foundation to synthesize a theory for socially anxious people through which they may build social confidence.

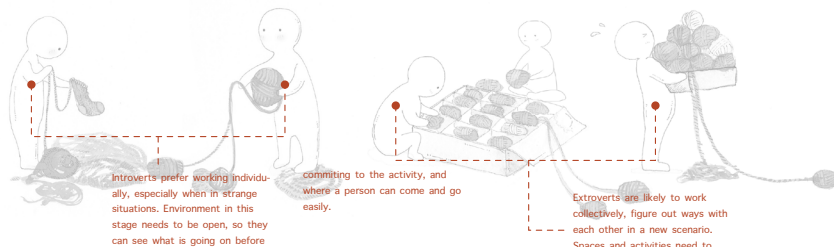
The objective of this visual framework is to transfer my personal understanding of social anxiety and the knowledge that I obtained through my research process to other designers. This visual framework provides a response to my experiential research, articulates the research topic, and provides resolutions by setting a series of boundaries. The goal of this visual framework is twofold: first, to assist designers who are endeavouring to serve socially anxious people through design; and second, to provide a framework for socially anxious people who are looking to strengthen their self-confidence through social challenges.

Framework of Social Experience



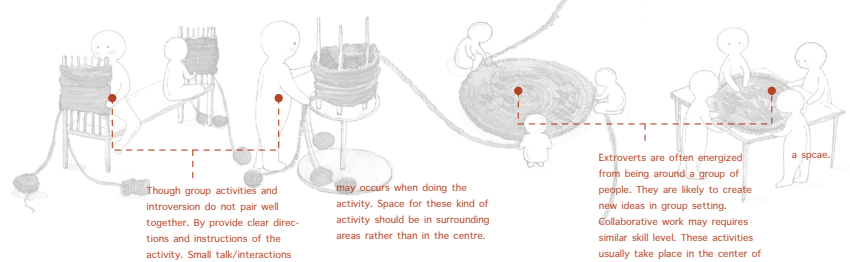
People	 - work individually	 - work collaboratively
Motivation	 - task commitment	 - interpersonal attraction
Communication	 - low-intensive	 - high-intensive
Skill Variation	 - minor	 - major
Space	 - personal space	 - social/public space

PREPARE



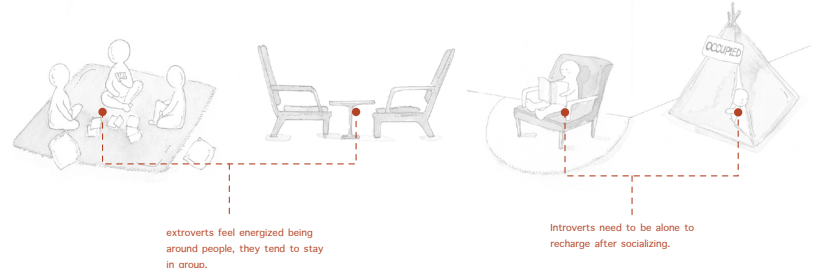
* In the prepare stage, an inclusive context/environment is built to sensitize people in the social situation. For example, people can perceive the surroundings that containing the social activity and its arrangement of facilities; be aware of the intensity of communication and interaction among participants; and get to know the “ways” to navigate through the social activity.

SOCIALIZING



* In the socializing stage, people will be communicating with relatively high intensity. Besides, the collective works will require people to have similar skills level. Group cohesion arise when people working together. What motivates people in this stage is task commitment rather than personal interest. Space/facilities in this stage needs to be open and easy to approach for all of individuals.

REST



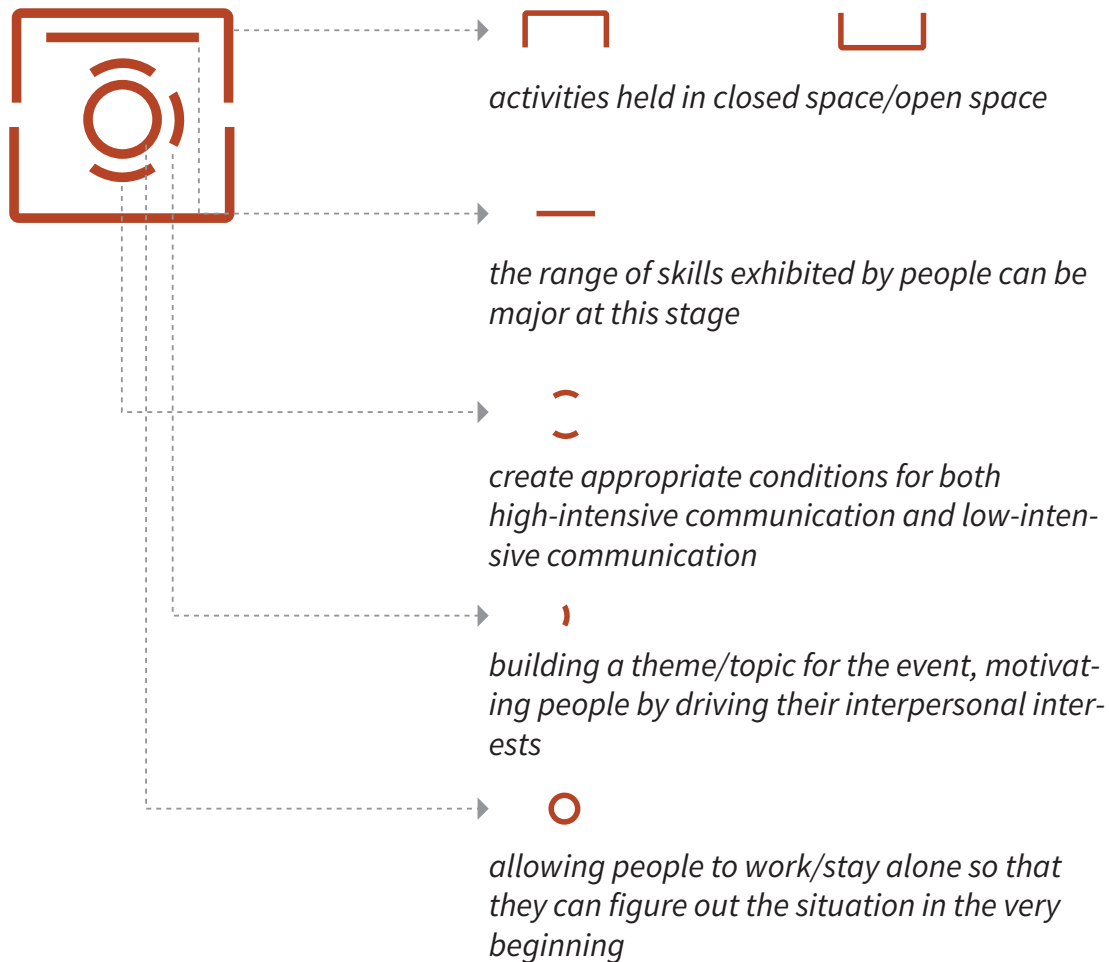
* After socializing, different people need various ways to rest and relax. Introverts need isolated space for recharging. Though energized by being around a lot of people, extroverts also need a secluded space for adjustment. Unlike the Prepare space which has both shared and isolated space, this Rest Space needs to have only isolated spaces.

How to use this visual framework?

Step 1: Deconstructing Symbols

Before planning a social activity, users should deconstruct the symbols of each step to single elements, and understand the meaning of each element.

E.g.,



Step 2: Application to Practical Context (Planning)

Using the visual framework as a guideline, designers or event hosts can coordinate different aspects of the social event and arrange physical conditions, such as space, tools and furniture, to address a specific theme or topic.

a) Arrange the space: use objects such as space dividers, shelves, chairs or other devices to partition the space. These partitions may influence communication and interaction. Consider people (element 1) and the expected intensity of communication (element 3) when planning space design; provide specific resolutions for actual situations.

b) Plan the activities: motivate people by designing activities that suit their personal interests.

c) Collect and provide tools: ensure people can perform any required actions and meet specific skill levels as part of a group. People can show major skill variation at this stage; planners should keep this in mind while also understanding that skill variation cannot be fully accounted for during preparation.

Step 3: Negotiation and Adjustment (Refining)

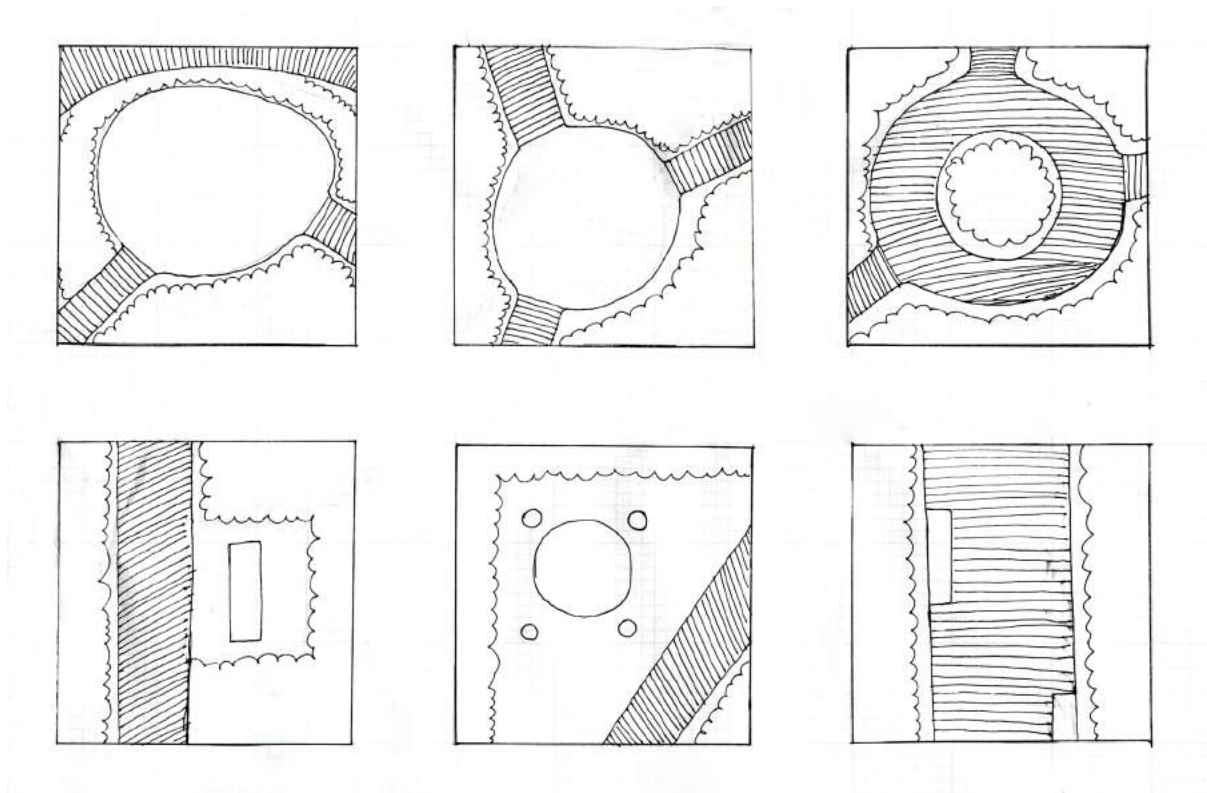
Adjust the details during the activities in accordance with the actual scenarios, identifying and responding to participants' needs. Envision the practical scenario with empathy, using empathic design methods, to make sure decisions consider all individuals or targeted people in the group.

CHAPTER 4.

REFLECTION

Two aspects of my research lead to the design outcomes. First, my preliminary research on public space in residential districts in China, which examined spatial effects on communication and behaviour. Second, my material practice experience within knitting meet-ups allowed for the observation of my targeted audience—socially anxious people.

Preliminary Research in China



Using materials I collected from observation in residential district in China, I analyzed the frequency of social contact in different types of public spaces, noting the relationship between space and communication intensity. Consulting the proxemics theories of Edward T. Hall, I deconstructed the social experience of people into different elements, and examined how these elements relate to and affect each other when composing a social experience.

1. Social distance varies when people interact with others.

Not all socially anxious people behave the same way. Some people like to stay in the corner of the room, while others feel safer to close to door, so that they can leave the event if necessary.

2. Extroverted people enjoy a wider variety of social contexts and have a higher tolerance for social stimuli/pressure than socially anxious people. Most extroverted individuals say they like both lively and quiet social spaces and atmospheres, while SA people mostly prefer quiet environments. A small number of SA people enjoy lively environments because they can hide themselves or blend into groups; this is different than what I had assumed before actually investigating the relationship between social anxiety, physical spaces, and social interactions.

Knitting Meet-Ups

Participating in knitting meet-ups provided me the chance to meet more people, observe their behaviours, and record my own thoughts (when I acted as the research subject). It also provided potential attendees for my co-creation activities. The observations and reflections I made during the knitting meet-ups improved my understanding of the context and thinking from the perspective of socially anxious people.

Making art can be an effective method to reduce anxiety during conversation. It provides both a distraction for SA people, as well as a chance to communicate when people are looking for help. Group cohesion improves through these communications.

By reflecting on my own experience during regular knitting group meet-ups, I was able to identify several key factors. First, social anxiety can influence a person's attention span. People who have small range of comfort level in social situations tend to be easily distracted by interruptions. Therefore, information should be simplified and stated clearly when creating designs for socially anxious people in social situations. Second, most socially anxious people find it difficult to tolerate social stress because unrealistic negative thoughts occupy too much of their attention and energy. By providing assistive tools to distract their attention, it is possible to reduce social anxiety even in unfamiliar social contexts. Third, confidence can be built over time through exposure to social situations and the development of strategies to ease anxiety.

Each knitting group meet-up was attended by six to ten people. The members of the meet-up

group knew each other fairly well, because they met regularly. By interviewing some socially anxious people from the knitting group, I learned that they feared stimuli in unfamiliar situations. During the meet-ups, the one noticeable difference between the extroverts and shy people was their attention span. Compared to other members of the group who were socially comfortable, I was not able to focus on group conversations when I was practicing advanced knitting crafts. I was especially nervous during the first few meet-ups. In addition, shifting my attention between participating in conversations and focusing on knitting was draining and increased my anxiety. Later, however, after I gained sufficient knitting skills, these effects were not as pronounced. My time with the group provided for pleasant moments in social settings where I could completely immerse myself in a craft. I learned that social anxiety decreases after individuals become familiar with the social context they are anxious about.

I found that my familiarity with the physical space of the meet-up group as well as the people who attended affected my subjective feelings of engagement in the group. Once I was familiar with the meet-up group participants, my anxiety decreased. My role as a research subject to record social anxiety during social experiences thus became less effective. Because of this, I may have missed some key insights during this initial research process.



(Figure 21: Knit work of John Bates: Knitting Group)

My experiences with the knitting meet-up group urged me to design handcrafting activities for other socially anxious people. I knew that these activities would need to be designed so that people who did not have advanced craft skills or learning abilities could nonetheless participate fully. I observed both verbal and nonverbal communication during the meet-up group; the way that people interacted with their environment also gave me clues about what they might be thinking and feeling. These observations also helped to build my understanding of the research context and develop empathy when designing. This combination of observation and engagement helped me to better understand the way others do things, and informed my study of what socially anxious people needed to feel comfortable. Intuition and imagination were both important and helped lead to resolutions for the research problems.

Design as an Exploratory Research Method

My objective for participating in the knitting meet-ups was to figure out how design might help navigate concerns about social anxiety and its deeper meanings in social contexts. I used to regard design as something that provided a practical resolution for a problem. Design used to function as the resolution at the end of a process rather than an exploratory method during my research. My perspective has shifted. The role of design in this project is distinctive; it falls somewhere between a resolution and a research method. It is important to figure out the role design plays in each distinct stage.

Safety behaviours are what socially anxious people use to guard against overwhelming social situations. Design can function as a resolution, focused on what people need in order to hide from social situations; or it can provide a way to navigate social situations and a means to recharge afterwards. In this project, design was used to deliver a system of navigation for people with low comfort levels in social situations. Design, in this case, forms an exploratory method where investigation and interrogation provide broader context and a means to test the hypothesis by proposition.

It is important to note that, in the research stage, it was difficult to invite people to participate in collaborative activities for observation, because most socially anxious people refuse exposure to social stimuli. My self-inquiry, however, provided a personal understanding of what obstacles prevent those people from participating in social activities. This design aims to motivate socially anxious people to join collaborative activities; it also aims to facilitate communication and interaction during the process. My self-inquiry increased my ability to empathize with my participants and I was also able to transfer the tacit knowledge I had gained from my subjective research experience to explicit knowledge through intuition.

CHAPTER 5.

CONCLUSION

In hindsight, I realize this process was a generative one. I was not clear on the research problem until I had collected sufficient qualitative data. Much of this was based on my own material practice. Material practice provided a basis for understanding the research context as it informed new ways to collect data that both engaged myself as a researcher within the research inquiry (by participating in knitting meet-ups) and as well as providing external opportunities for gathering qualitative research data (by designing the Social Fabric Workshop).

The Social Fabric Workshop created physical artifacts that addressed the needs of socially anxious people by facilitating interactions during social handicraft activities. The workshop also created a context for the observation of various elements in people's social experiences and provided the context in which I could validate newly designed objects. The Framework of Social Experience and the Social Fabric Workshop made up a design ecology that is suitable for determining criteria for planning future social contexts inclusive of social anxiety. This project not only focused on the psychological definition of social anxiety, but also sought to counter our cultural bias in favour of extroversion by attempting to understand and meet the essential nature and needs of introverts and shy people.

Future Thinking

The visual framework, also known as the five key elements that make up a social experience, can be further developed as an instructional system. This framework can be added to, adapted and revised as an instructional principle to inform more and varied social activities. The whole structure of this design system can remain iterative. It states a clear pathway and proposition for alleviating social anxiety. The iterative nature of the design system will make it possible to develop a theory of social experience in the future beyond this project.

There is also room for further inquiry and exploration. In terms of building a framework for theory, how can the workshop ecology bring forward an objective understanding of people's social experiences rather than the researcher's personal awareness? How can the visual

system of social experience be developed into a theory that offers application to different contexts?

Finally, this project underlined the problem that our culture favors extroversion and places strong emphasis on assertive communication skills. For introverted and shy people, it is important to reflect on how we can engage with this culture without changing our natural inclinations? What's the best way for us to navigate social situations so that we, too, have the opportunity to contribute our opinions, knowledge, and ideas?



(Figure 22: I'm nobody: Poster of Social Fabric Workshop)

CHAPTER 6.

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CHAPTER 7.

APPENDIXES

1. Knitting Circle
2. Method Cards: Social Fabric Workshop
3. Weave Rugs
4. Embroidery Badges
5. Weaving Bench Prototype

Knitting a social fabric

Knitting Circle

Knitting Circles are opportunities for topical conversation, learning something new, about you and about me. Knitting circles can enable social reflection about who we are and create a social context to share our stories with others.

INVITING

There are different colored yarn in the package. Choosing a toolkit that you like and inviting one or more individuals to build up a knitting group.
EXCHANGE your toolkit with others.

SHARING

Begin to knit and share your stories.

If you don't have knitting experience before, here is an instruction of knitting process that you can follow.

EXCHANGING

Exchange your outcome with others.



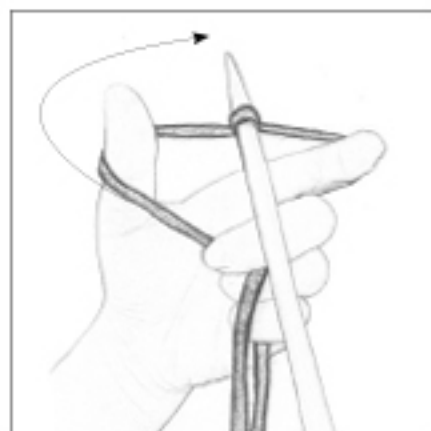
A — Cast On (adding new stitches)



1. Wrap the yarn around left hand, with the two ends facing to the right, leave the tail end enough.



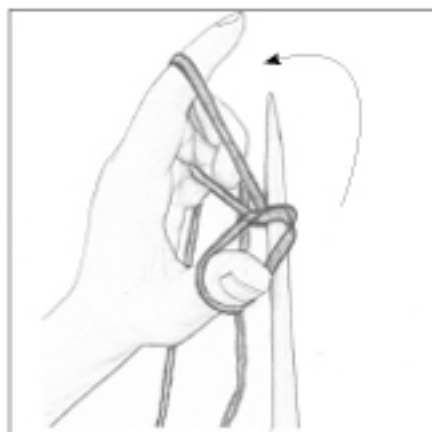
2. Put your needle under the top yarn.



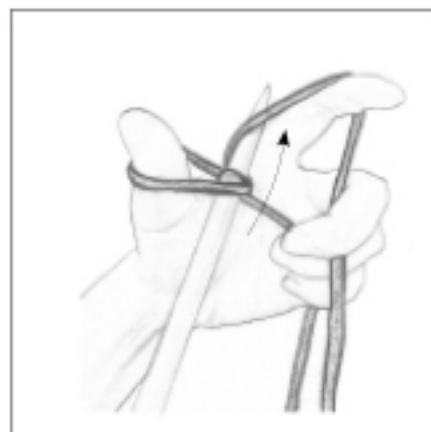
3. Turn your hand clock wise.



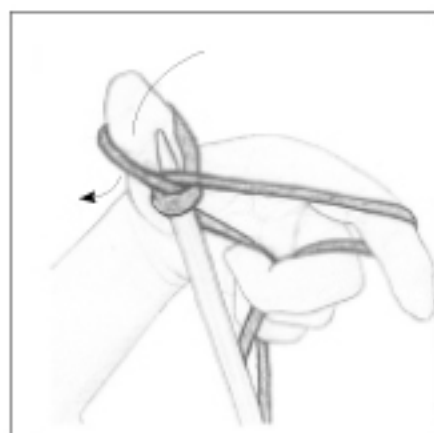
4. The tip of the needle goes up through the loop on the thumb.



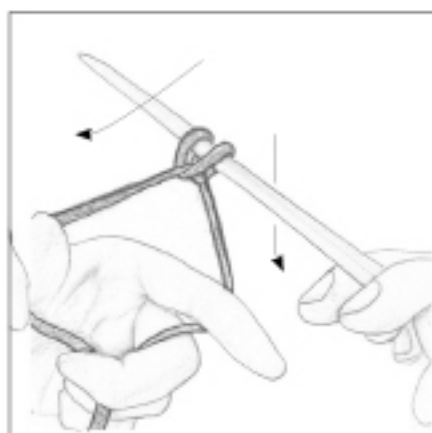
5. Under the loop on the finger.



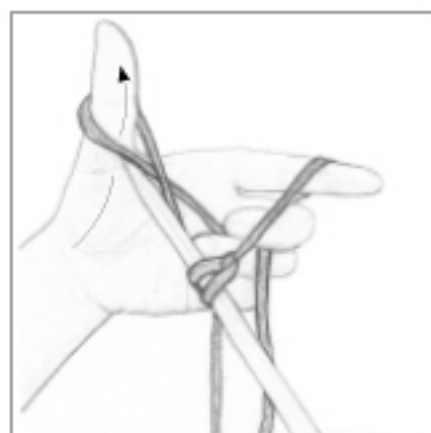
6. Under the loop on the finger



7. Pull the needle down through the loop on the thumb.

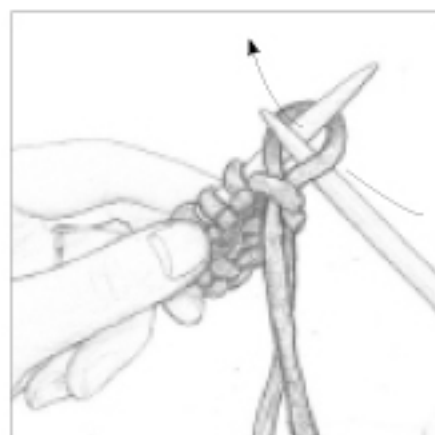


8. Pull the yarn, so the stitches is secure on the needle.

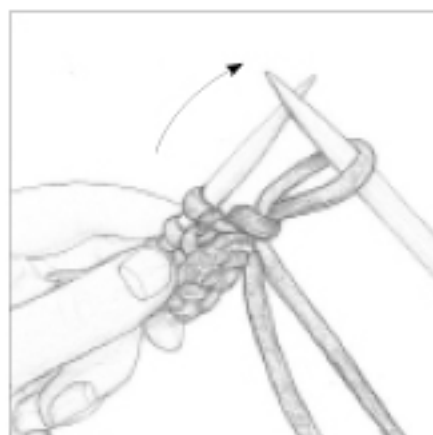


9. To make the next stitch, slip the tip of needle goes up through the loop, repeat from step 4 to 8.

B — Knitt Stitch



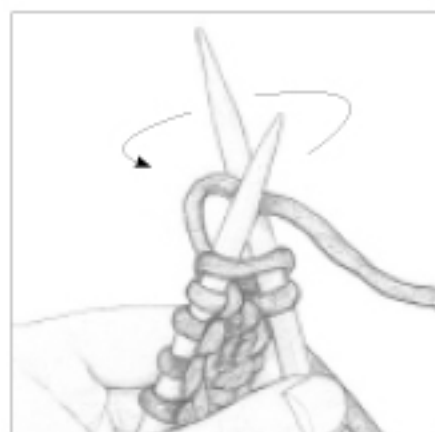
10. Slip the first stitch from left needle to right needle.



11.



12. Put the right needle through the loop.



13. Wrap the yarn over the right needle from left to right.



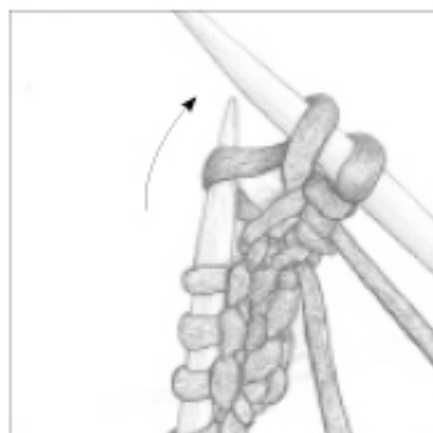
14. Pull the yarn tight to your right needle



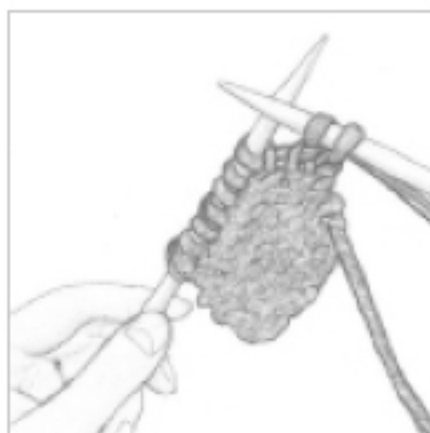
15. Slide the right needle, pull the yarn out through the loop.



16. Pull the needle down through the loop on the thumb.

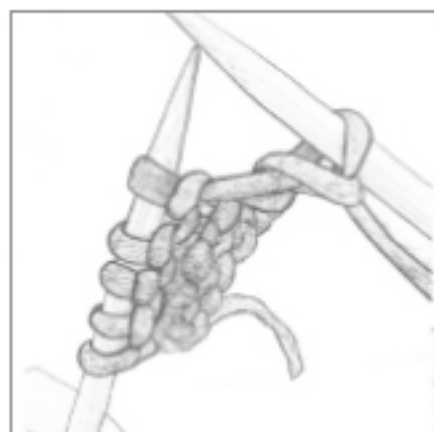


17. Slide the one stitch off the left needle.



18. To next stitch, begin with figure 12.

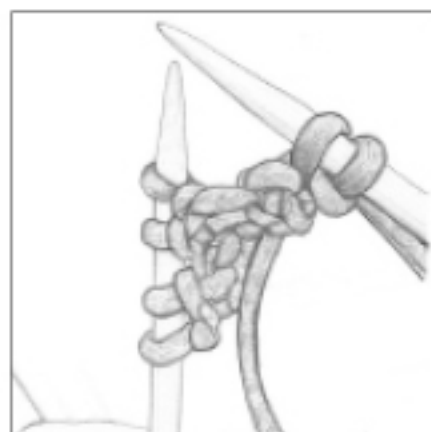
C — Bind off (finishing stitches)



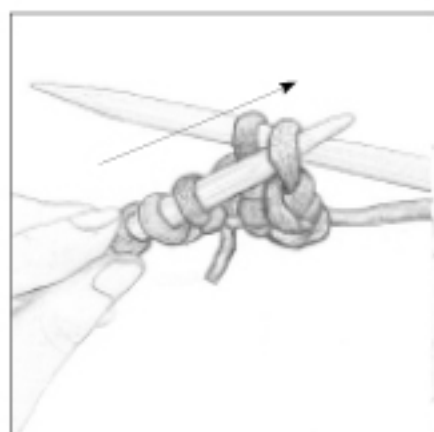
19. Slip the first stitch from left needle to right needle.



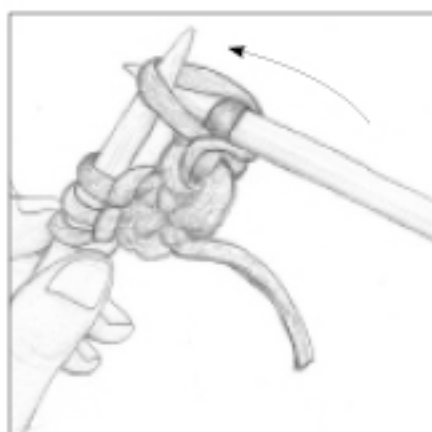
20. Put the right needle through the loop.



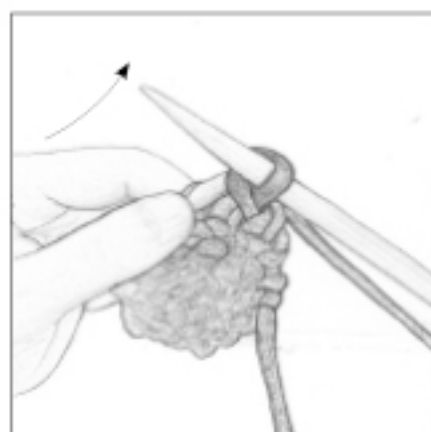
21. Make two stitches on right needle.



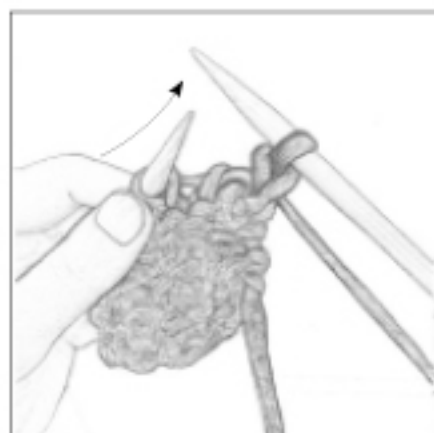
22. Use left needle through the first stitch over the second stitch and the needle tip.



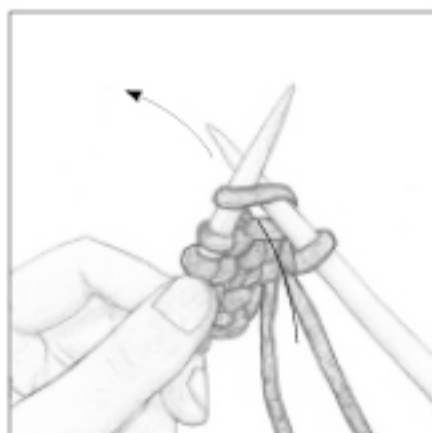
23. Pull the right needle out.



24. Slip one stitch off the left needle.



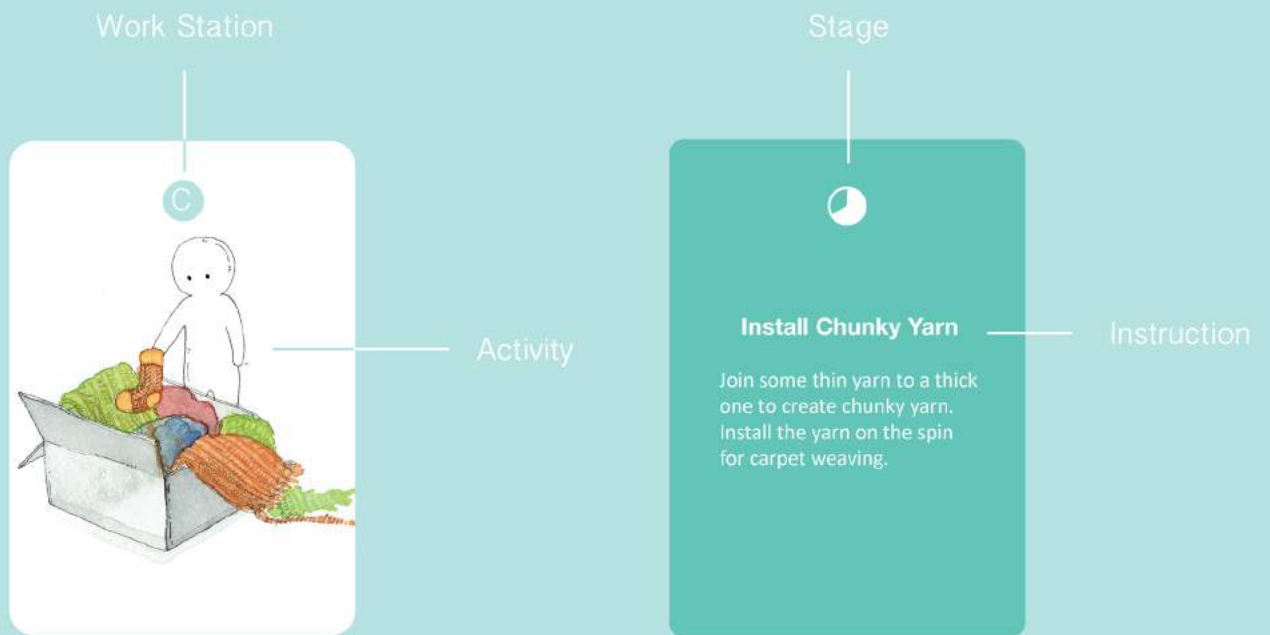
25.



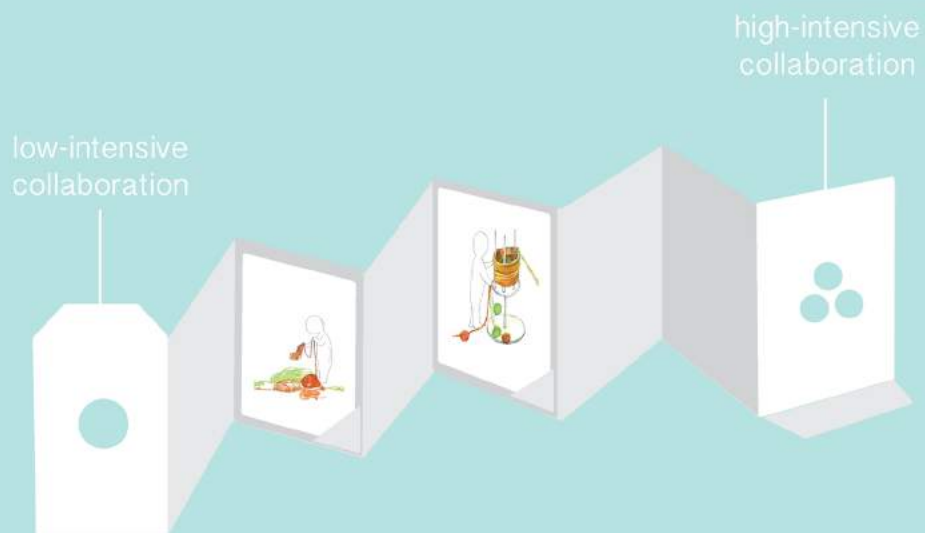
26. To next stitch, begin with figure 20, keep two stitches on right needle



27. Out and pull out the yarn through the last loop.



Method Card



Method Card Pack

U



Undo

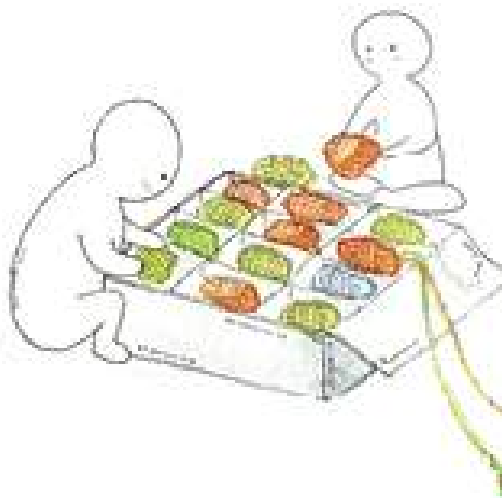
Pull on the end tail to unravel knit objects. Take apart the object to get recycled yarn.

R



Roll

Roll recycled yarn into a ball, and put it into the collecting box beside.



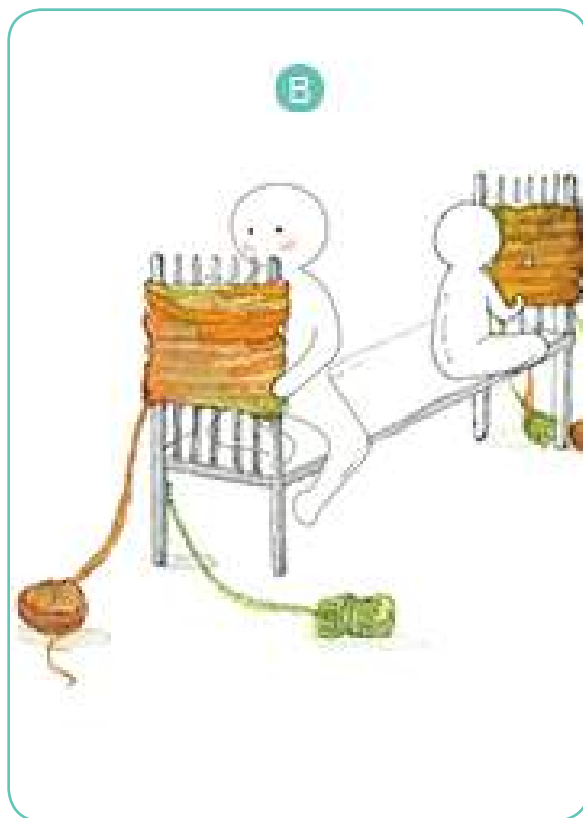
Organize

Categorize yarn balls according to different color/material/weight.



Transfer

Transfer recycled yarn balls to others, help to refill yarn boxes in Collaboration Space.



B



Bench Weave

Wrap yarn through the dowels; cut the vertical threads and tie knots after finish.



Y



Install Chunky Yarn

Join some thin yarn to a thick one to create chunky yarn. Install the yarn on the spin for carpet weaving.

W



Carpet Weave

Weave a giant carpet by cooperating with others, find out new weaving methods.

D



Carpet Decorate

Tying yarn around the edge to decorate the carpet.



Small Group

A place for play



Casual Chat

A space for two individuals to
chat and rest.



Reading Corner

A secluded area for reading.



Isolation

An isolated space for rest.

