

Accomplishing the Shared Meal: Social Order in the Student Kitchen

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This report examines the shared meal in student accommodation not merely as co-eating, but as a complex, socially organised accomplishment. Adopting a video-ethnographic approach, we investigated naturally occurring meals by triangulating audio-visual recordings, digital planning traces, and field notes. We utilized interaction analysis to examine the specific “*turn jobs*” through which participants coordinate disparate schedules, negotiate menus, and manage the spatial constraints of the kitchen. The findings reveal how the meal is sustained through fluid role allocation, ad-hoc resource management, and the negotiation of fairness” in serving practices. We conclude by discussing how these everyday food practices function as sites of high-reliability collaboration, offering implications for the design of low-friction technologies that support coordination without over-complicating domestic hospitality.

CCS Concepts: • **Human-centered computing** → *Empirical studies in collaborative and social computing*; **User studies**; **Field studies**; **Ethnographic studies**.

Additional Key Words and Phrases: Ethnography, Field Study, Interaction Analysis

1 Introduction

A shared meal is more than eating together. It is a collaborative activity where people coordinate tasks, negotiate preferences, and build relationships. These moments unfold through talk, embodied action, and the use of domestic space, which connects shared meals to HCI's interest in everyday cooperative practices. Previous work in Human–Food Interaction shows that cooking and eating carry emotional and cultural meaning. Comber et al. describe how food preparation is tied to identity and social experience [5]. Grimes and Harper argue that technologies around food should support celebration and connection instead of efficiency [12]. Building on this work, our study examines how people organise the process of preparing, cooking, and eating a shared meal. These studies show that shared meals offer a useful setting for understanding how people work together and how technology might support this activity.

HCI research on shared meals has explored how technology supports interaction, cooking, and coordination. Studies such as WeScream and Living Bento show how sensory feedback or bio signals can increase playfulness, emotional expression, and togetherness during meals. Other research uses sensing models to identify commensal behaviours and examines how robotic or voice-based systems can assist cooking. Coordination-focused work suggests that shared calendars, inventory systems, and digital planning tools can help groups manage responsibilities when preparing or eating food together.

However, many of these studies focus on only one stage of the food experience. As a result, understanding of how shared meals unfold across planning, cooking, eating, and cleaning remains limited. To address this gap, our study observed six shared-meal events ethnographically. We examined how people collaborate throughout the flow of activity. Using participant observation, we joined the events and documented interactions, bodily movements, and how tools and space were used. We collected WhatsApp messages, grocery trips, and kitchen practices to follow how the meal developed. This approach is appropriate because, as Paay et al. note, collaborative cooking depends on situated bodily coordination [21]. Our method focuses on capturing the practical and embodied actions that make shared meals work. Our dataset included AV recordings, fieldnotes, and individual study logs that were reviewed and compared across events.

Across the six events, shared meals required continuous coordination. Participants negotiated availability, adapted plans when ingredients or tools were missing, and worked within limited space. Roles changed as people moved between cooking, helping, organising, or observing. Sensory cues guided timing, and digital communication supported early planning and group awareness. These findings connect with Marovelli, who describes food sharing as a collective encounter created through situated practices [18]. Our analysis shows that shared meals are dynamic achievements supported by interactional work.

Our findings also showed that coordination became difficult when the group split up in the supermarket, especially because people looked for items in different sections and sometimes used different languages. We also noticed that participants needed extra time to understand what ingredients and tools were actually available in the kitchen. Based on this, we think technology could support shared meals by giving real-time updates, helping with translation issues, and showing a shared view of the kitchen so that groups can organise tasks more easily.

2 Related Work

This literature review examines research on shared meals from an HCI perspective. It focuses on how technology can support the social aspects of dining, cooking practices, and coordination processes.

2.1 Technologies Supporting Social Eating and Commensality

Technological approaches to enriching shared meal experiences have been an ongoing interest in HCI. Recent work goes beyond simply assisting eating activities and instead focuses on enhancing social interaction, playfulness, and sensory engagement during meals.

Wang et al. introduce WeScream[29], a gustosonic system that turns the movements and sensations of eating ice cream into sound. Two people react to these sounds together, creating a small, shared performance. Their study shows how sensory feedback can spark humour, closeness, and a shared rhythm during a meal.

In a similar direction, Chen et al. present Living Bento[4], an interactive food design that uses biosignals. The noodles change their movement or shape according to the eater's heartbeat. When someone's bodily rhythm becomes part of the meal itself, the dining moment becomes more immersive and emotionally expressive, showing how technology can subtly shape the atmosphere of eating.

Technology has also been used to understand the social structure of meals. Niewiadomski et al. propose a sensing-based model [20] that recognises commensal activities, such as passing items, signalling for refills, or using gestures, during shared meals. Their work offers a way to capture "eating together" as data, which could later support smart dining environments or meal-support systems.

Finally, several studies focus on helping people who are physically apart feel as if they are sharing a meal or cooking together. Seo et al. investigate how a telepresence robot can recreate everyday meal-related interactions in long-distance families [26]. The robot's movement, gaze shifts, and positioning create a stronger sense of "being there" compared to normal video calls, supporting emotional connection.

Building on this idea, Panicker et al. explore how the social robot Haru mediates food-related experiences in remote families [22]. Haru uses facial expressions, small gestures, eye contact, emotional reactions, and even verbal guidance during cooking. Their study shows that Haru helps maintain the natural flow of conversation around mealtimes and reduces awkward or tense moments, acting as a social facilitator that supports emotional closeness across distance.

2.2 Cooking Smart Kitchen and Dining Systems

Niewiadomski et al. [19] investigated how robots can act as artificial dining companions, actively participating in shared meals and interacting with humans at the table. By serving as support in the dining experience rather than replacing human presence, these robots aim to enhance social engagement and contribute to the overall enjoyment of shared meals through engaging in commensal experiences and recognizing social cues.

While robots can enhance social interaction during meals, technology can also play a role in the preparation of food. Jaber et al. [16] studied a context-aware voice agent that guided participants through recipes, monitored ingredients, and provided timers and reminders. Using a wizard-of-oz setup, participants relied on the agent to confirm progress, clarify steps, and manage timing, reducing errors and boosting confidence.

Cooking technology has also been explored in the light of multimodal interaction, focusing on combining modalities by Weber et al. [30]; visual displays, voice input and output, and touch interfaces are particularly useful, as they complement each other: voice is practical when hands are busy, touch allows precise control, and visuals provide clear instructions and feedback. Studies also show how these modalities compete for the users attention, showing that users can resume their primary task by having ambient On-Environment notifications [28].

Technologies designed to address assistive technology in smart home systems are present within the field as well [9]. Examples of such are; voice-controlled kitchen appliances, automated drawers and cupboards, RFID-tagged storage for

ingredients, and touch/gesture based interfaces that help users manage inventory and cooking tasks. They all seek to create a more inclusive kitchen environment by providing users with alternative means of interacting with objects, monitoring their tasks, and receiving real-time feedback on their actions.

2.3 Technologies Supporting Coordination in Shared Meal Activities

Technology supported coordination offers new possibilities for making shared meal planning and execution smoother.

Jenkins observed a cohousing community where residents often struggled with scheduling and dividing responsibilities for communal dinners [17]. Based on these challenges, they suggested ICT solutions such as shared calendars that display who plans to join a meal, automatic check-ins, and digital systems for reserving kitchen or dining spaces [17]. These ideas show how early steps of a shared meal such as invitations and scheduling can become more transparent and easier to manage with technology.

Bae et al. studied how cohabiting couples coordinate everyday food-related tasks like deciding menus, checking ingredients, and organising grocery shopping [1]. They propose that shared grocery apps could show each person's progress in real time, and automatic inventory sensors could detect what items are running low [1]. Their work also introduces a role-suggestion algorithm that recommends task assignments based on past patterns, helping couples negotiate responsibilities more fairly [1]. Here, technology does not replace collaboration but helps reduce confusion and supports smoother decision-making.

Ha et al. show that major life events, such as pregnancy, moving, or caregiving, can significantly change how people prepare and experience food [13]. They highlight the need for systems that automatically adjust meal plans when routines shift, tools that divide cooking into manageable shared steps, and emotionally responsive support to help people maintain meal routines during stressful periods [13].

2.4 Research Gap

A wide range of technologies have been developed to support eating, cooking, and meal planning; important gaps remain in how these activities are understood and supported as socially situated practices. Prior work has shown that technology can enrich the social and sensory experience of shared meals (e.g., [4, 19, 29]), increase confidence and reduce errors during cooking (e.g., [10, 16, 30]), and facilitate planning and organisation of food-related tasks (e.g., [1, 13, 17]). Other studies demonstrate how telepresence and social robots can foster feelings of connection across distance (e.g., [22, 26]). However, three key research gaps remain. First, existing work largely treats eating, cooking, and planning as separate phases, with few studies examining how technology might support the entire, end-to-end process of sharing food, from decision-making through preparation to commensal consumption. Second, most studies focus on smaller homogeneous groups, and not how technologies function in larger or culturally diverse groups, where food practices, roles, and expectations may differ significantly. Third, while remote meal technologies support a sense of social presence, there is still limited understanding of how technology can enable smooth coordination when some participants cook or eat together in person and others join remotely (e.g., [22, 26]).

3 Methodology

3.1 Methodological Approach: Ethnography and the Problem of Social Order

Our research adopts a rigorous ethnographic approach to investigate the “Shared Meal.” Ethnography here means extended engagement in naturally occurring settings using participant observation and audio–video recording, in

order to document how activities are organized in real time. Following the module's theoretical orientation, we treat ethnography not merely as a qualitative data-gathering technique, but as a foundational inquiry into the problem of social order [7]. Traditional sociological models often treat social order as the result of internalized norms or external structures. In contrast, our study is grounded in the ethnomethodological perspective that social order is a local, moment-by-moment accomplishment produced by members of a setting [7] [15].

A “shared meal” in student accommodation is not guaranteed by hunger or shared culture; it is an interactional achievement. It happens only because specific actors actively work to coordinate disparate schedules, negotiate culinary preferences, and manage physical constraints. Our interest lies not in the “why” (motivations), but in the “how” (methods). We treat the shared meal as a “perspicuous setting” [8]—a window into the “seen but unnoticed” work that makes domestic life intelligibly orderly. Accordingly, we eschew *a priori* categories to discover empirically how participants themselves assemble identities through interaction.

3.2 Conduct of the Study

To capture the “natural attitude” of the home environment, we employed convenience and snowball sampling, recruiting 31 participants from our own student accommodations (e.g., Melton Hall, private flats) to ensure ecological validity. Participants were primarily our flatmates and friends in student accommodation, which meant we were already embedded in their everyday domestic routines. **Table 1** summarizes participant demographics (including age, occupation, gender, ethnicity, and familiarity with shared meals). Fieldwork ran through October 2025, covering six distinct meal events. We treated the meal as a distributed activity with a specific “career” [2], tracking it from Digital Spaces (digital negotiation in WhatsApp group chats), through Public Spaces (like “till-side” interactions in supermarkets), to Domestic Spaces (execution in the kitchens).

Our primary strategy was Participant Observation in the “observer-as-participant” mode. Researchers were embedded in the activity—chopping vegetables and tasting food—to capture haptic and sensory dimensions that visual data misses. We adhered to the module's Data Management Plan (DMP), storing recordings in secure, access-controlled university drives and only sharing anonymised extracts within the group. The resulting dataset includes approximately four hours of AV recordings, digital planning traces, and photographic ecological surveys.

We encountered two main fieldwork challenges. First, participants were initially self-conscious about being filmed (an instance of the “Observer's Paradox”), which we mitigated by focusing footage on hands and artifacts rather than faces and by allowing time for them to settle into the activity. Second, filming in supermarkets raised privacy concerns, which we addressed through “till-side ethics”: obtaining in-situ verbal consent from staff and framing shots to avoid bystanders.

For analysis, we reviewed the recordings to identify analytically rich episodes, transcribed selected fragments using a simplified Jeffersonian system, and compiled Individual Study Logs (ISLs) in which talk, embodied action, and ecological detail were annotated and segmented into “Turn Jobs”.

3.3 Analytic Orientation

Our analytic work proceeded in three stages. First, each researcher conducted within-case analysis of their own recordings: repeatedly viewing the AV data and working through the segmented Turn Jobs—small units of work that accomplish a specific practical task (e.g., proposing a dish, allocating a utensil, resolving a spill).

Second, we carried out cross-case comparison at the group level. In seminars, we brought our ISLs together, compared Turn Jobs across events, and asked what recurring practical problems they addressed (e.g., coordinating timing, managing

Table 1. Overview of participant demographics and study characteristics across the six observed shared meal events.

Study ID	Researcher	Age Range	Occupation	Gender	Ethnicity	Familiarity / Expertise in Shared Meals
A	Santhusha	21-25	Undergraduate/Postgraduate Students	M/F	Mixed	High - Mid.
B	Seowoo	21-26	Undergraduate/Postgraduate Students	M/F	Mixed	High - Low
C	Nana	22-25	Undergraduate/Postgraduate Students	M/F	Mixed	Mid - Low
D	Yifan	22-24	Postgraduate Students	M/F	Chinese	High
E	Yi Du	22-24	Postgraduate Students	M/F	Chinese	High
F	Ryan	22-25	Postgraduate Students	M	Mixed	Low

limited space, distributing labor). This allowed us to move from idiosyncratic episodes to general forms of practical organization.

Third, we produced analytic memos that linked clusters of Turn Jobs to five methodological lenses from the module: Symbolic Interactionism, Situated Action, Conversation Analysis, Interaction Analysis, and Ethnomethodology. We did not treat these as competing theories but as complementary ways of seeing the same empirical material.

3.3.1 Symbolic Interactionism: The Career of the Meal. Symbolic Interactionism [2] focuses on how meanings, identities, and roles are constructed and negotiated through interaction over time. We used this lens to treat the shared meal as having a career rather than being a one-off event. Analytically, we asked of sequences of Turn Jobs:

- What social objects are being constituted here (e.g., “proper dinner”, “treat”, “South Asian food”)?
- What identities or roles are being worked up (e.g., “main cook”, “helper”, “cultural expert”)?
- How do these evolve over the career of the meal?

For example, in Event B, Turn Jobs around “eating with hands” were coded as sites where a practice was negotiated as either a hygiene issue or “South Asian culture.” When P1 explicitly instructs P3 in this, we treat that Turn Job as a moment where the shared meal becomes a setting for cultural transmission. Similarly, in Event D, sequences around the hot pot were read in terms of how “fighting over meat” is interactionally reframed as enjoyment, turning the dish into a symbol of communal labour rather than conflict.

3.3.2 Situated Action: Plans as Resources. Situated Action, following Suchman [27], sensitizes us to the gap between plans and situated courses of action. Plans (recipes, shopping lists) are not internal scripts that determine behaviour but resources that are interpreted, adjusted, or abandoned in response to local contingencies.

Using this lens, we systematically asked of relevant Turn Jobs:

- What plans or expectations are invoked here?
- How are they being consulted, adapted, or circumvented in the moment?
- What material or social contingencies are shaping what actually happens?

In Event A, the group’s plan to make a Spanish omelette is disrupted by the absence of a large pan. Subsequent Turn Jobs around borrowing “Keith’s pot” are treated analytically as situated solutions rather than “failures of planning”.

Similarly, in Event C, the unavailability of rice paper produces a shift to “stir fry”. We use these episodes as evidence of how intelligence in the kitchen is an interactional property of cooks working with tools and constraints.

3.3.3 Conversation Analysis (CA): *The Machinery of Talk*. Conversation Analysis (CA) [24] focuses on the sequential organization of talk-in-interaction. We drew on its core ideas—turn-taking, adjacency pairs, and repair—to examine how talk organizes the division of labour. Practically, we examined:

- **Adjacency pairs and conditional relevance:** We identified sequences such as invitation–acceptance/refusal and instruction–compliance. In Event A, the WhatsApp message “Do u guys wanna eat dinner?” was treated as a first pair part that makes a response conditionally relevant. In the kitchen, Turn Jobs where P1 instructs P2 are read as first pair parts whose “proper” second pair part is P2’s embodied compliance.
- **Silence and delay:** In both face-to-face and WhatsApp talk, we treated gaps as analytically meaningful. Proposals that receive slow uptake were examined for the “repair” work they subsequently trigger.
- **Repair:** We highlighted Turn Jobs where participants correct themselves or recover from trouble sources (e.g., a sugar spill). These sequences show how mutual understanding is actively maintained.

3.3.4 Interaction Analysis (IA): *Ecologies of Collaboration*. Interaction Analysis [15] extends CA by making bodies, artifacts, and space central to analysis. Its focus is on “ecologies of collaboration”. In our ISLs, we treated each fragment as multi-modal:

- We described **spatial formations** (e.g., narrow galley vs. open-plan), tracking how people move in a “dance of avoidance”.
- We followed **object trajectories** (knives, colanders), noting how passing objects reconfigures responsibility.
- We attended to **embodied conduct**—pointing, leaning, reaching—as part of task negotiation.

We also drew on Goodwin’s notion of **professional vision** [11] when participants used digital media. In Event C, P1 physically orients her phone (showing a TikTok) to P4, treating the video as a resource for establishing a shared way of seeing “what we are making”.

3.3.5 Ethnomethodology (EM): *Accountability and Member Methods*. Ethnomethodology [7] provides the overarching orientation. Its core concern is with “members’ methods”—the routine practices through which people produce activities as recognizable. Our concept of the “Turn Job” is explicitly ethnomethodological; each is written as an answer to the question: *what practical job is being done here, and by what locally available methods?*

We used EM concepts to guide analytic choices:

- **Accountability:** We looked for ways participants made actions observable. In Event B, P1’s narrated actions (“I am adding spices”) were analysed as methods for solving coordination problems.
- **Documentary method of interpretation:** We highlighted moments where small sensory cues (bubbling sounds, smells, the “bounce” of a dumpling) are treated as documents of an underlying pattern (“it’s ready”).
- **Reflexivity:** We treated participants’ own descriptions of “what we are doing” as part of the activity itself, shaping how others respond to the situation.

4 Findings

4.1 Who is coming for dinner and when is the dinner

This phase is about turning individual free time into a group plan. The logs show that scheduling is not a single quick decision but a process of negotiation using digital tools (WhatsApp). It involves sending the first message, dealing with people's busy schedules or lack of energy, and finally locking in a specific time and place.

- Initiating the Plan via Group Chat.
- Solving Scheduling Conflicts.
- Confirming the Final Plan and Venue.

Each of the interpretive process are described below

A. Initiating the Plan via Group Chat

This job describes how the group first suggests the idea of a meal using digital tools like polls or group messages to gauge interest.

From Santhusha's turn job 1

Sofia: "Hi people, do u guys wanna eat dinner tonight or something? Like have our own food but eat together?"

Keith: "Yeah I'm down!"

Maya: "Love the idea but I have a call with my sister tonight ... will join next time."

Sofia: "Ah okay ... We're prob gonna cook around 19.30 -- 20."

Fig. 1. Transcript

The planning usually starts with a "broadcast" message to a group rather than asking people one by one. In Santhusha's log, a member posts a general question ("do u guys wanna eat dinner tonight") to see who is interested. In Seowoo's log, the leader creates a digital "Poll" so people can vote on days.

Instead of having messy, overlapping conversations, they use specific app features like "Polls" to make the options clear. This turns a vague idea into a concrete list of options that are easy to say "yes" or "no" to.

B. Solving Scheduling Conflicts

This job explains how the group negotiates when someone cannot attend or forgets the plan, using social bonds to fix the schedule.

From Ryan's turn job 2A
 Ryan: Hey Evan, didn't have any classes today? Just a quick reminder about 7:30.
 Evan: Ohhh! ohhh! wait wait , actually I have some plans this evening, can I catch up later on??
 Soo Sorry!!!
 Ryan: Actually Evan, we need to do the entire process together... do let me if your available for lunch tomorrow.
 Even: Wait! Really?
 Ryan: Surely you haven't read the contract Evan. No worries, do let me if your available for lunch tomorrow, as the super markets may close at 4 sharp!

Fig. 2. Transcript

Plans often fall apart because people are busy or tired. The group has to fix these problems to keep the dinner alive. In Ryan's log, a participant forgets the dinner because he has other plans, so they have to move it to lunch the next day.

When someone tries to back out, the group doesn't just accept it. They offer compromises (change the time) to repair the broken commitment and keep the group together.

C. Confirming the Final Plan and Venue

This job details the final step of agreeing on a specific time and place, turning a loose plan into a fixed commitment.

From Santhusha's turn job 4:
 James: "Also we doing it in Daniel's place or our kitchen?"
 Claire: "I think our kitchen"
 Daniel: "Let me know when you go to Lidl. Also if you are going to Melton before Lidl tell me so I can bring my frying pan and everything and then we go to Lidl. Is that ok?"
 Sofia: "Yeah we could go to Melton first and drop our stuff off and go to Lidl after... We'll be back at Melton ca 17.30."

Fig. 3. Transcript

Once a time is picked, the group needs to agree on exactly where to meet. Santhusha's group discusses whether to eat at a private flat or the shared kitchen, deciding on the shared kitchen for more space.

They stop discussing "possibilities" and state a specific location and time ("Our kitchen"). This turns a loose plan into a fixed instruction that everyone can follow.

4.2 Figuring out what we are going to eat

This phase involves designing the menu. The group doesn't just pick a random dish; they build a plan based on what they already have in the fridge, what they crave, and what equipment is available. They use phone to look at recipes and physical checks of the kitchen to decide what is possible.

- Planning Based on What We Have.
- Using Phones for Recipe Ideas.
- Adjusting the Menu to Fit Constraints.

Each of the interpretive process are described below

A.Planning Based on What We Have

This job involves checking the kitchen for existing ingredients to save money and avoid waste, using these items to guide the menu choice.



Fig. 4. Checking the hot pot base

From Yi Du's Turn job 2

Lydia: Let's buy a spicy hot pot base tonight.

Jessi: We have a spicy base! We have all kinds of bases—tomato, mushroom, spicy, everything.

Lydia: OK, then we won't need to make the purchase this time.

Fig. 5. Transcript

Instead of starting from scratch, the group looks at their current stock to save money and avoid waste. The group checks their hot pot base inventory before deciding on the flavour.

The group uses resource-first planning. They look at physical objects (leftover vegetables, packets of sauce) to drive the decision. This makes the decision easier because it narrows down the infinite number of choices to just a few

options that use what is available.

B.Using Phones for Recipe Ideas

This job shows how participants use smartphones to find recipes when they lack ideas or expertise.



Fig. 6. Looking at TikTok videos to get online recipes

From Nana's turn job 2

P1: I should have looked at some recipes before I got here.

P1: I'll take a look at my TikTok.

P2: Oh cool.

P3: I have so many videos.

P4: Yeah, really, I feel like my whole feed is just food videos, but I just watch them for entertainment, I don't actually make them.

Fig. 7. Transcript

When the group is unsure what to cook, they use smartphones as a tool for inspiration. They look at TikTok videos to visualize the dish and browse online recipes to find something simple.

The phone becomes a shared object that everyone looks at. By showing a picture or video, the abstract idea of "dinner" becomes a concrete image that everyone can agree on.

C.Adjusting the Menu to Fit Constraints

This job demonstrates how the group adjusts their ambitious food plans to fit the reality of limited equipment, dietary needs, or hunger levels.

From Santhusha's turn job 3

Daniel: "Guys. I can make Spanish omelette next Wednesday if you want."

Daniel: "The thing is that it won't be enough for a whole meal. Even if I do 2 I think."

Sofia: "Maybe we can be a couple of people who do it together? What I planned is mostly side dishes so I think that could work."

Fig. 8. Transcript

The group has to adjust their plan to fit reality (equipment, hunger, diet). One person wants to make an omelette, but admits it won't be enough food. Another person solves this by offering to make side dishes.

When a limit is found (not enough food), the group doesn't cancel the meal. Instead, they "patch" the plan—adding side dishes—to make the event work.

4.3 What ingredients do we have and what we don't have and shopping if needed

This phase covers the physical work of getting the food. It starts with checking the kitchen to see what is missing and ends with buying the items. The group uses physical actions (shaking bottles, touching fruit) to judge quality and quantity, and they divide the work to be efficient.

- Checking Inventory Before Leaving.
- Dividing Shopping Tasks.
- Choosing Quality Ingredients with Senses.

Each of the interpretive process are described below

A.Checking Inventory Before Leaving

This job establishes the necessity of physically verifying kitchen supplies before leaving to ensure nothing is bought unnecessarily.



Fig. 9. *Checking for missing seasoning*

From Yi Du's turn job 1

Lydia: Let's check the condiments—what's missing?

Ricky: [Picking up an empty glass bottle labeled 'rice wine' and shaking it gently to confirm no liquid remains] Right, we're totally out of rice wine.

Fig. 10. Transcript

Before going to the store, the group physically checks the kitchen to verify what they need. One participant picks up bottles and shakes them to hear if they are empty. Another group uses a shared digital list and marks items off with ticks to avoid buying duplicates.

They don't trust their memory; they trust their senses. Shaking a bottle or looking at a checklist provides "hard evidence" of what is missing, ensuring the shopping list is accurate.

B.Dividing Shopping Tasks

This job illustrates how the group splits up geographically or by task type to make the shopping process faster and more efficient.



Fig. 11. *Pick up the shopping bags and split up to act*

From Yi Du's turn job 4

Jessi: We all love soy products—let's buy more this time.

Lydia: [Pulling out a smartphone to scroll through a notes app] We have fried tofu skin here—let's get some dried tofu skin too.

Jessi: [Putting on a winter coat and picking up the shopping bag.] I'll go buy some drinks, so I'll head to Tesco. You guys go to the Chinese supermarket—let's split up.

Fig. 12. Transcript

To save time, the group splits up: one person goes to Tesco for drinks, while the others go to the Chinese supermarket for food. Another group agrees to do "personal shopping" first and then meet up to do the "group shopping" for the meal.

The group uses parallel processing. By splitting the group, they can do two jobs at the same time. This requires trust that the other sub-group will buy the right things and a plan to meet up again later.

C.Choosing Quality Ingredients with Senses

This job focuses on how participants use touch, smell, and sight inside the store to ensure they purchase high-quality and culturally appropriate ingredients.

From Seowoo's turn Job 9

P1 : (picks up a spice packet and smells it) I miss home. so especially cardamom and cinnamon, based on the snow, you can say my parents any spice, like cloves, cardamom, fenugreek, cumin, cinnamon. It's like a green pod. You usually put it in because it has a really nice spice and very nice smell. Cardamom is actually one of the main five spices. So you have staranese, cardamom, clove, cinnamon and cumin. Those are the five spices that we consider.

Fig. 13. Transcript

Inside the store, the group uses their senses (smell, sight) to pick the best items. One group smells the cinnamon to check if it is high quality. Another group discusses which bacon to buy, using one person's cooking knowledge to decide on "unsmoked". A third group negotiates meat choices based on fat distribution and cultural rules.

Choosing food isn't just reading a label; it involves touching, smelling, and looking. This physical interaction helps the group agree that the ingredient is "good enough" for their meal.

4.4 Preparing and pre-cooking arrangements

After gathering the necessary groceries from the store, the participants unpack, organize, and sort the items, including groceries, cookware, utensils, and ingredients, in the storage cabinets, on the kitchen counter top, and in the refrigerator. During this process, they consult and search for recipes to assess the quantity and availability of ingredients and plan the order in which to prepare them for cooking. Tasks are distributed among the participants, such as peeling, washing, and setting up cooking equipment, including pans and utensils, utilizing ecological features like the sink, chopping board, kitchen counters, and dining table. The participants prepare the raw materials by peeling, chopping, washing, seasoning, and marinating items like potatoes and meat. Finally, they set up the cooking equipment, ensuring that pans, air fryers, and stovetops are ready while adjusting the temperature, allocating burners, and planning the sequence of cooking. These processes are performed sequentially yet flexibly, allowing the participants to understand and coordinate their movements, negotiate cooking equipment and workspace and understand what needs to be done next. Here are the interpretive processes related to cooking preparation in sequence.

- Unpacking and organizing the ingredients, utensils and cookware.
- Referring to the recipe.
- Task distribution and negotiation.
- Preparing the raw materials.
- Setting up the cooking equipment and cookware.

Each of the interpretive process are described below

A. Unpacking and organizing the ingredients, utensils and cookware.

In this interpretive process, the participants start transferring the groceries to their allotted spaces and get the required ingredients, utensils and cookware before their eyes to start preparing the raw materials for cooking.



Fig. 14. Transferring the spices into the plastic containers

P1: (transferring the purchased spices into small plastic containers)

P1: (taps the plastic container lightly so that the spice powder settles evenly inside) P1: Um, P2, could you get the chicken out.

P2: Yeah, of course (goes to the fridge, takes out the chicken box, and hands it to P1)

Fig. 15. Transcript

From the above example we can understand that as soon as the participants return from the grocery store, they unpack, transfer, sort, and organize the groceries. For example, they store spices in containers, place poultry in the refrigerator, keep root vegetables in a basket, and fresh vegetables in the vegetable tray of the fridge. Activities like transferring spices into containers involve actions such as tapping the container to ensure the spices settle properly and checking the quality of the spice. During this process, participants gather multiple items, including the required ingredients and cooking equipment, considering factors like size, shape, and material. The specific choices depend on the type of cuisine being prepared and the number of participants involved. At this stage, the participants also plan and decide the sequence for preparing and cooking the raw materials and cleaning the cooking apparatuses before use. Participants also prefer to set music to create a comfortable and calm working environment.

To effectively organize the groceries in the kitchen, the participants rely on ecological cues, such as designated spaces and the locations of storage areas, to decide where each item should be placed. For instance, they store poultry and fresh vegetables in the refrigerator and keep spices on the spice rack or in the vegetable tray. The participants also keep the necessary ingredients and cooking utensils on shared surfaces, like the counter top and dining table, to ensure they are visible and accessible to everyone. This arrangement creates a temporary visual inventory of the items for all participants. Additionally, the coordination among participants is influenced by their shared understanding of the

next steps, which is shown through actions like opening storage compartments to access utensils and cookware. They improve accessibility by placing ingredients near the utensils and arranging cookware effectively.

B. Referring to the recipe

After gathering the ingredients and cooking tools and deciding on what to prepare, the participants referred to available online recipes, consulted each other, or followed instructions on the ingredient packages. The main chef directed and guided the helpers on how to handle and prepare the raw materials.



Fig. 16. Looking at the recipe online

Evan: I'll will go and get my air fryer

Andrew starts searching for a steak recipe online while resting one hand on his head. Meanwhile Evan comes back from his room. Evan goes back to his room to get the air fryer, Ronan sits on the dining chair and Andrew was on him phone searching for recipes. Evan carries his air fryer out of his room, opening the door with his leg and holding it with both arms.

Fig. 17. Transcript

Once the ingredients and cooking apparatus were organized and arranged, the participants, primarily the head chef, began looking up online recipes for step-by-step guidance on preparing the chosen cuisine as shown above. For instance, they checked the required amount of seasoning for a specific quantity of meat, the cooking time for vegetables, the proper size, measuring ingredients, the technique for chopping, the appropriate marination methods, and which cooking tools to use. When the recipe was not available online, the participants referred to the cooking instructions on the food package for preparing the noodles. When participants did not have a kettle to boil the noodles as instructed on the pack, they chose to soak them in cold water instead.

Participants from various studies used multiple methods to refer to recipes like referring cooking videos from streaming apps to understand the necessary equipment and visualize the cooking process. Online written recipes from search engines provided step-by-step instructions and ingredient quantities. Instruction labels on food packages, such as the printed instructions on the noodle pack, helped them learn how to prepare specific items. Additionally, participants

exchanged personal cooking knowledge based on their current circumstances, such as available ingredients, cooking equipment, and time and their past experiences. Coordination was effective through directive instructions ("boil this for five minutes"). Referring to recipes was flexible; for instance, when a specific piece of cooking equipment or ingredient was unavailable, participants would improvise with alternative techniques, such as soaking noodles instead of boiling them.

C. Task distribution and negotiation

After getting the direction on how to prepare raw materials and cook, participants engage in these tasks voluntarily, based on their experience and strengths. The responsibilities are also assigned, instructed and demonstrated by the head chef.



Fig. 18. Giving instructions

P1: (opens the cupboard and takes out a spatula)
 P3: Do you want us to chop vegetables?
 P2: Can we do anything?
 P1: Actually, I have half a shallot to chop with some garlic, actually, which is, it's in my room. Can you get my back, like proper baked battering? (hands the key to P2)
 (P2 leave the kitchen and came back)

Fig. 19. Transcript

In this phase, the participants voluntarily suggest tasks for themselves ("Probably do the potatoes"). The participants may direct others with certain responsibilities like washing and chopping the vegetables and setting up the cookware. Here, the participants as helpers, ask the main chef to review their actions ("Is this size appropriate for the curry?"). In the above example, the participants voluntarily ask the main chef to get them into a certain activity. Participants also guide and demonstrate how to perform a certain task (eg: chopping bell peppers or peeling carrots) for assistance.

Participants mainly distribute the task by voluntarily selecting the task appropriate for them or directive guidance and instructions from the main chef. The participants choose the tasks or responsibilities they are comfortable with and have expertise and experience in it such as chopping, washing, preparing the sauce base, and marinating the meat which reduces negotiation on distributing the task. During uncertainty at any step, the helpers ask the main chef for guidance which is instructed or demonstrated. Participants show one another how to chop, peel or handle ingredients for the less experienced participants or if the actions don't align with the expected technique.

D. Preparing the raw materials

After organizing the ingredients and arranging the necessary cooking equipment, the participants began to prepare the raw materials. This included washing the vegetables, cutting and dicing the meat, boiling the noodles, preparing the sauce base for the hot pot, seasoning the chicken and marinating it.



Fig. 20. Chopping the vegetables

Evan takes the pack of four potatoes to the kitchen, tears the package open, and removes the potatoes. He keeps all the potatoes on the chopping board and takes out his chopping knife from the drawer below the sink.
 Evan: (placed the knife over the potatoes) Do you wash your potatoes?
 Andrew: (while unpacking the steak) Yaa! I think so
 Ronan: (Turns left and nods his head while cutting broccoli into small pieces) But I would like the skin on.
 Evan: Cool! Do you like the skin on or skin off??
 Andrew: Whatever.. Whatever is fine!!

Fig. 21. Transcript

During this phase, participants thoroughly washed the vegetables and chicken under the sink before chopping or slicing them. The helpers consulted the main chef about the appropriate cookware and utensils, as well as the size and shape in which the vegetables and chicken needed to be chopped or peeled for specific dishes. For example, chopping onions, whisking eggs, slicing bell peppers into strips, and dicing chicken into small pieces for curry, boiling the noodles and peeling off the potato's skin, considering the texture and consistency of each ingredient and how they would behave in the pot or pan or the duration it needs to be cooked and how it impacts the overall taste. The workplace of the participants depends on the ecological features, for example, dicing the vegetables and meat beside the sink for easy

access to the water to wash them, preparing the marinade besides the stove so that it becomes easier to put the meat into the pot. After dicing the chicken for the curry, it was seasoned with spices in a bowl and kept for marination after tasting it.

Participants used cooking tools and utensils, such as chopping boards, knives, and peelers, to prepare the ingredients while coordinating their preparation methods through verbal instructions and demonstrations. The arrangement of their workspaces facilitated collaboration and ensured efficiency. The marinade was tasted to verify that it met expectations regarding spice level and saltiness. To save time, these preparation tasks were carried out simultaneously, with proper coordination and guidance among participants.

E. Setting up the cooking equipment and cookware.

This phase focuses on setting up and preparing the cooking equipment like setting the air fryers temperature and setting, pre-heating the oil on the pan and boiling the sauce base in the hot pot.



Fig. 22. Setting up the cooking equipments

Evan: (touches the air fryer's display with his thumb) Ahhh, I can make them cook so they can finish at the same time.

Air fryer: (Beeps after every touch on the display by Evan)

Evan: (glares at the air fryer and taps on the display aggressively) I need to.... wanna put..... (looks at the air fryer, points at the air fryer with his index finger moves the finger up and down) So when this turns to 10, one would stop and then when Evan presses the red button on the display, the air fryer beeps, turns on the lights inside the tray, and emits a humming sound. Stepping back from the air fryer, Evan pats his hands together while looking at it, with his hands in his jacket pockets alongside Andrew and Ronan. Evan explains how the air fryer works.

Fig. 23. Transcript

After the preparation for cooking, the participants pour the required amount of oil into the pan and turn the stove on to preheat the oil for frying the chicken or meat. In order to save time, resources and considering health benefits, participants consider using air fryer to cook the vegetables (grilling the chopped broccoli and potatoes) for that they set put the chopped veggies in the air fryer and set the mode, time and temperature to cook the vegetables. In other cases, participants pour the required base sauce in the hotpot and place it over the table stove to heat the sauce. The cooking

equipment's purpose, temperature and usability depend upon the food that needs to be cooked in it for instance using pans for oil frying, air fryer to grill food without oil and hot pot to boil the food.

Participants assess the purpose, heating requirement and function of each cooking equipment to put the appropriate food item in it and the way it needs to be prepared. Participants use visual signifiers and indicators to set the appropriate environment for cooking (using the knobs, dials or buttons to set the time, mode and temperature and digital display and heating light that indicates the apparatus status). In order to boil the raw materials, the participants use appropriate pots considering the shape, size and temperature the pot could withstand. The intended food preparation depends upon the shape, size and other physical properties of the cooking apparatus which leads the participants to use the most appropriate one as per their purpose.

4.5 Cooking the prepared things

After preparing the ingredients and raw materials, comes the phase where all the prepared ingredients are transformed into a complete meal by following the decided recipe or direction. The interpretive processes in this phase are sequential yet interdependent and flexible. While cooking, orderliness is important: the ingredients need to be added in a timely sequence, the temperature needs to be tracked, and the readiness of the food evaluated through sensory cues to achieve the desired result. Here are the interpretive processes related to cooking the prepared things in sequence.

- Assessing the heat and readiness of the equipment
- Cooking in an orderly sequence
- Waiting and adjusting the stove
- Evaluating the food, iterating and turning off the cooking equipment

A. Assessing the heat and readiness of the equipment.

In this interpretive process, the participants determine if the cooking equipment like pans, air fryer, hot pot and the contents in it like oil or sauce bases are at the ideal temperature for cooking. For assessing the temperature of the equipment, participants rely on sensory cues such as smell and colour of the oil and pan surface and steam rising from the hot pot, ensuring that food is prepared in a suitable thermal condition.



Fig. 24. Placing the steak pieces in the pan

Ricky: (Nodding and carrying the pot to the faucet) Yeah, then we can add the base.
 Ricky: (Finishing washing the pot quickly) We're having spicy hot pot today, right?
 Iven: [Bringing over the spicy hot pot base] Yeah, let's do it

Fig. 25. Transcript

During this phase, the participants keep the pans and pots over the stove and set the desired temperature. As shown in the above example, the oil in the pan is heated for some time before putting the steak pieces over it. The participant holds the hand above the pan to sense the heat rising. The cookware's temperature depends upon the purpose and cooking style; for instance, the temperature of the pan needs to be low for cooking steak, as compared to the temperature required for preparing the hot pot.

To set the ideal temperature of the stove, hot pot or air fryer, participants use visual cues like the dial on the stove and the display on the air fryer. To assess the temperature of the content (oil and sauce in the hot pot) in the pan and hot pot, participants use sensory cues like feeling the rising heat, crackling sound and smell and visual cues like bubbles forming on the oil. These sensory check helps the participants to understand when to add the ingredients and raw materials to the cookware.

B. Cooking in an orderly sequence.

This interpretive process describes how participants add the prepared ingredients to the cookware in a sequential order, depending upon the time required to get the ingredients cooked while following the recipe.



Fig. 26. Adding salt to the saucepan

A: Beef first, then the vegetables (she explained, stirring briskly). That keeps the meat tender.
 A: Once I'm done with this pot, you can use it for the dumplings.

Fig. 27. Transcript

After achieving the ideal temperature of the cookware for cooking the participants add the ingredients step by step (heating oil > adding onions > adding vegetables > adding the meat > preparing base for the curry > seasoning the curry > adding condiments). During this phase, participants manage multiple items at a time like preparing sides, noodles and rice along with the entrée. The participants instinctively prepare the meal in an orderly sequence like preparing the base of the curry, adding the meat, seasoning the curry, mixing the curry, adjusting the temperature, tasting the curry to check the doneness before proceeding and iterating on the food.

Different food items may require different temperature and conditions to cook which creates the sequence indirectly, for instance, items that cook slowly go first (Eg, meat needs to be cooked longer than the curry base, hence meat is added to the pot before the curry base). Participants refer to the decided recipe or instruction, timing expectation and understand the behaviour of the ingredients to determine the orderly cooking sequence.

C. Waiting for the ingredients to cook and adjusting the temperature

After adding all the ingredients and raw materials to the cookware, regulating the temperature of the cookware is important to make sure none of the raw materials remain uncooked/overcooked. The cookware on the stove needs to be monitored to avoid undercooking or burning the food, which may involve lowering or raising the temperature or repositioning the food.



Fig. 28. Waiting for the food to cook

P1: P2, can you give me the curry leaves?

P1: just wait until the extra milk water content boils off. We should be okay. Come (Meanwhile, P1 stays alone in front of the stove, continuously checking and adjusting the dishes. He stirs with the spatula, controls the heat, and occasionally checks his phone. He snaps his fingers and adds some sauce into the curry beside him, then checks his phone once more.)

Fig. 29. Transcript

After adding all the ingredients to the pot or pan, the participant mixes the ingredients using cooking equipment (ladle, chopsticks) and lets them cook. During this time, the food is monitored, stove knobs are adjusted, meat is flipped and the air fryer's tray is shaken until the ingredients in it are cooked at the set temperature.

Participants adjust the temperature using sensory cues like the food changing its colour (Browning of the meat), smell (smoky smell) and texture. The change in physical properties of the ingredients also influences the participants to lower or raise the temperature of the food (Eg: Heating the water in a full flame till it boils and rises up and then lowering the temperature to settle the boiling water down).

D. Evaluating the food, iterating and turning off the cooking equipment

In this interpretive process, the participants check the doneness of the food using sensory cues such as smelling and tasting the food to refine, make changes or add ingredients if necessary.



Fig. 30. Tasting the food

P1 returns to the stove to check the cooking dish and stirs it with a spatula. He pours the leftover rice back into the rice container. Then he fills the measuring cup with water and pours it into the pot with rice. He goes back to the stove to check the other dish. He moves the pan with fried onions to another burner and places the pot with rice on the main burner. He adds curry powder into the rice pot, takes out other spices, and mixes them by hand to blend evenly. He adds more spices. He washes his hands, comes back to the stove, checks the dish again, and stirs. He adds salt, adjusts the flame, scoops a bit of the food with a spatula onto his palm, tastes it, and adjusts the seasoning again. He adds the remaining ingredients, tastes it once more, and finishes the dish.

Fig. 31. Transcript

In this phase, the participant (the main chef) stirs the curry in the pot using a spatula, lowers the stove heat, dips the spatula in the curry, pours a few drops of the curry onto the palm and licks it. Similarly, in another study, the participant opens the air fryer's tray, has a bite of potato, and puts the tray of potatoes back into the air fryer ("This may take just couple of minutes more!!"). In this stage, the participants try to assess the readiness of the food cooked, evaluate the taste, texture and other properties of the food as expected. The participant put the tray of potatoes back into the air fryer, as they were not ready as expected. Putting the potatoes back to cook is the iteration done to make the food better. Later, after repeated tasting and evaluating the food, the participants turned off the cooking equipment (stove and air fryer) once the food was ready.

Participants use sensory and visual cues such as smelling, tasting and evaluating the appearance and colour of the food to verify if the food is prepared as per the recipe or decided direction.

4.6 Setting up the table and sitting down

This phase explains the transition from completing the cooking process to organizing the table with food and arranging the plates and personal cutlery. Once the cooking was completed, the food was placed on the dining table before

serving. In some individual studies, the food was self-served by the participants directly from the cookware. Here are the interpretive processes related to setting up the table before serving the food in sequence.

- Placing the food on the dining table
- Arranging the plates and cutlery

A. Placing the food on the dining table

After turning off the cooking equipment, the participant placed the hot food on the dining table and arranged it so that other participants could easily access it. Before serving, they look at the food and appreciate the meal from its appearance.



Fig. 32. Setting up the table

P1: Guys, Shall we... (comes out of the kitchen carrying a frying pan filled with a finished dish)

Everyone: Ohhhh (everyone looks at the dish P1 is bringing and starts organizing the dining table)

P3: (quickly places a coaster in an empty spot on the table)

P1: (places the frying pan on the coaster) Other things are coming out

P5: (claps) Yeahhh

P1: (goes back into the kitchen and then returns with another dish)

Fig. 33. Transcript

Participant (main chef) tastes the food and turns off the stove, meanwhile other participants get seated at the dining table. The main chef holds the pan, picks it up, and walks carefully towards the dining table and keeps it at the center

of the dining table over the coaster. Participants look at the food as the main chef brings it to the table. Meanwhile, in another study, the hot pot was already set on the dining table before preparing the raw materials.

Participants understand the physical properties such as temperature, size and weight of the pot to figure out how to carry the pot to the dining table (e.g., both hands, using a towel, or transferring to a serving bowl). The layout of the dining table needs to be figured out to determine where to place the pot so it's accessible to all before positioning it over the table.

B. Arranging the plate and cutlery

After setting up the meal on the dining table, the participants get their plates, glasses and cutlery from the shelves and drawers in the kitchen and place them on the table.



Fig. 34. Setting up the plates and cutlery

P4: (brings her own plate to the table, tosses an object that was on the way to the far side, and starts organizing the many plates and dishes on the table.)

Fig. 35. Transcript

In this interpretive process, the participants get their plates and cutlery from the shelves and drawers in the kitchen, wipe them with a dry cloth and keep them around the table. Forks and spoons are placed beside each plate, while some also get glasses for drinking cold drinks and water and get back to their seats.

Participants follow dining practices that they are familiar with, for instance placing the cutlery on either side of the plate, which depends upon which hand they use for eating and arranging the plates and glasses within easy reach.

4.7 Severing food and eating

Serving food and eating in our six dinner recordings is organized by a small set of recurrent interpretive processes. These processes transform cooked food into a shared meal by deciding who serves whom, when eating officially begins, how bodies and utensils are arranged, how comfort is maintained, and how the event is turned into a setting for storytelling, identity work and relationship-building.

- Choosing a serving protocol and allocating portions
- Coordinating readiness and starting the meal
- Making the meal into a cultural and relational event

A. Choosing a serving protocol and allocating portions

Even once the food is on the table, how to distribute it still needs to be negotiated. By deciding who serves, whether people help themselves or are served by the host, and how to accommodate dietary restrictions, the group creates an orderly and polite way of sharing limited dishes so that everyone gets a fair portion without appearing greedy or impolite.



Fig. 36. *Passing the plate*

From Santhusha's dinner:

Maya: "Shall I start serving everyone? Just pass me one plate at a time."

Claire: "I guess we can pass our plates around... serve and give it back."

Sofia: "Perfect."

...

Aamir: "So no bacon for me."

Claire: "Oh really? I didn't know that."

Fig. 37. Transcript

This dialogue shows how people negotiate serving rules (who serves, plate flow, portions) while accommodating dietary restrictions like "no bacon," balancing politeness, fairness and individual needs.

Here, serving becomes something to be negotiated. People propose options (like "I'll serve" or "let's pass the plates around") and brief responses such as "Great" are treated as agreement. Once a procedure is set, plates are passed in order rather than everyone reaching for the shared dishes at once. At the same time, dietary restrictions (e.g. "I don't eat bacon") are remembered and automatically respected during serving, so norms of hospitality and consideration are built into the emerging serving process.

B.Coordinating readiness and starting the meal

Seeing food on the table does not automatically mean it is time to eat. This process enables participants to assess whether the dishes are fully finished, preparations are complete, and when it is appropriate to "officially" begin the meal, thereby managing a smooth transition from preparation to eating and avoiding both impolite early eating and unnecessary delay.



Fig. 38. Waiting for the pot to boil

From Yi Du's hotpot:

Jessi: "Everyone's staring at the pot like they can't wait."

Lydia: "I think the meat should be cooked now."

Xanthe: "I feel like it should be ready to eat too."

Ricky: "The pot's boiling! Let's eat."

Fig. 39. Transcript

This dialogue shows that "when to start eating" is a collective decision: participants share observations like "the meat should be cooked" and "the pot's boiling" until someone voices a shared "Let's eat."

Participants turn private perceptions and impatience into public, verifiable judgments: Jessi identifies the group's visible anticipation, Lydia and Xanthe offer specific doneness assessments confirmable by observing the pot, and Ricky links a visible cue ("The pot's boiling!") to an imperative ("Let's eat") to provide shared grounds for action. Through this sequence, the group collectively authorizes the first move to eat, making the meal's start a collective rather than individual decision.

C.Making the meal into a cultural and relational event

Finally, participants use the meal as an occasion to share cultural practices, family stories and future plans. This process organizes how local eating practices. The meal becomes a space where people position themselves culturally, talk about home and parents, and reflect on their relationships.



Fig. 40. *Eating with hands*

From Seowoo's dinner:

P3: "This is my first time eating with my hands. It feels kind of like a religious ritual. How are you supposed to eat?"

P1: "No rush, I'll show you. First leave yourself a small area on the plate as your 'safe zone'... then scoop some rice with sauce and a bit of each dish onto that little pile... when you've formed a small ball, use your thumb to push it into your mouth."

P1: "This is South Asian culture. Indians, Sri Lankans, Pakistanis, Bangladeshis, Afghans—we're used to eating with our hands because we mix everything before we put it in our mouths."

...

P3: "If my parents saw me eating with my hands, they'd probably freak out."

Fig. 41. Transcript

This dialogue shows how the meal becomes a cultural and relational event: teaching hand-eating is framed as South Asian culture, and imagining parents' reactions links the dinner to family values and identity.

Practical guidance on eating with hands is framed as "South Asian culture," linking specific skills to a broader cultural context. By sharing feelings of guilt or embarrassment for others to respond to, P3 is reassured, making the attempt safe. The conversation shifts from skills and condiments to parents and their imagined reactions, situating the meal in long-term family relationships. What started as a lesson on eating with hands becomes a way to convey culture, address moral emotions, and reflect on hometown connections.

4.8 Cleaning up

Across six shared meal studies, cleaning and kitchen hygiene are not a final "add-on" to cooking but an organized part of student groups' shared meal management. Participants use cleaning to mark transitions (e.g., preparation to cooking, eating to social closure), protect shared resources, and maintain social reciprocity with flat mates/friends, with its accomplishment guided by three recurrent interpretive processes.

- Timing the clean-up around eating and future activities
- Distributing clean-up work as cooperative labour
- Resetting the shared kitchen and its resources

A. Timing the clean-up around eating and future activities

Timing the clean-up is about deciding *when* cleaning should happen in relation to eating, talking and leaving. It orders the "business" of clean-up by projecting it as an upcoming but negotiable task: participants agree to postpone or start cleaning now, while preserving the flow of eating and conversation and still treating cleaning as a shared, inevitable responsibility.

From Nana's dinner, P1 explicitly proposes to defer cleaning until after eating while also checking the status of items:

P1: "We can clean after we eat."

P1: "Has this been washed already?"

P3: "Oh yeah, but put the ..."

P1: "Ah, okay."

P1: "We'll clean it after we eat."

Fig. 42. Transcript

Here, talk about cleaning is woven into ongoing preparation and eating. "We can clean after we eat" and "We'll clean it after we eat" project cleaning as a future, shared course of action, while the query "Has this been washed already?" checks whether any cleaning is already done or still pending.

Methodologically, participants frame clean-up as a future sequential step via talk and bodily cues—phrases like "We can clean after we eat" serve as instructions on timing and accountability ("we"). Timing work also involves checking objects' current state to decide if cleaning is needed immediately or can be deferred. Across studies, cleaning timing is negotiated in situ: households vary in preferring immediate or later cleaning, but participants use talk to make preferences accountable and align on when to clean.

B. Distributing clean-up work as cooperative labour

Distributing clean-up work turns it into a shared cooperative project (not a single host/cook's burden). It organizes post-meal hygiene by allocating specific tasks (washing, wiping, etc.) via offers, refusals, and re-offers, with participants demonstrating reciprocity, appreciation, and a fairer, more efficient division of labour.



Fig. 43. *Washing dishes*

In Yifan Shi's dinner, cleaning is also broken down into complementary roles:

B stacked the plates: "I'll take these to the kitchen—could you wipe the table?"

A grabbed a cloth and spray bottle: "No problem." She sprayed and wiped carefully, removing soy stains and crumbs.

D carried bowls to the sink: "B, I'll wash the other half."

B laughed: "Perfect—teamwork makes it faster."

Fig. 44. Transcript

Stacking plates, carrying them to the kitchen, wiping the table, and washing "the other half" distribute work across space (dining table, kitchen, sink) and across participants. "Teamwork makes it faster" explicitly formulates this as a shared, efficiency-oriented project.

Methodologically, distributing clean-up work relies on task proposals/allocations specifying who does what (e.g., "I'll wipe the table"), embodied alignment (standing up, stacking dishes) that signals task acceptance without explicit agreement, and preference structures (offers, refusals, insistence) that manage politeness—insisting on helping when

someone offers to “do it later” transforms cleaning into a shared norm. The kitchen’s ecological layout (sink, table, bin) is used to design an interlocking workflow (carry → wash → wipe), with participants balancing social talk and efficient sequencing to make helping both morally appropriate and practically useful.

C. Resetting the shared kitchen and its resources

Resetting the shared kitchen involves restoring objects, surfaces and spaces to safe, usable, “back-to-normal” states post-cooking or pre-next phase. It organizes cleaning by handling leftovers/waste, checking hygiene, and returning items to owners or storage—including both mid-session “clean-as-you-go” and end-of-session pack-out.



Fig. 45. Resetting the shared kitchen

From Seowoo’s dinner, a “cleaning” sequence distributes post-meal tasks across participants to reset the kitchen:

- P2 collects dishes, cups, and utensils from the table.
- P4 scrapes leftovers into the bin while P2 stacks plates near the sink.
- P3 rinses dishes with water and soap.
- P1 dries the cleaned dishes with a towel.
- P3 and P4 store the plates and cutlery back in the cupboards.

Fig. 46. Transcript

This shows a full reset cycle: from scraping leftovers and stacking dishes, through washing and drying, to returning items to cupboards. The kitchen is progressively transformed from a used eating space back into a neutral, ready-to-use environment.

Methodologically, resetting the kitchen involves linked practices: segregating waste and reusable items (e.g., scraping leftovers into bins, stacking dishes by the sink) to facilitate cleaning/reuse, sequencing wash–dry–store as an ordered workflow, and treating cleaned/stowed items as “good enough” for next use. These routines visibly reset the space—removing meal traces by using bins, washing/putting away dishes, and clearing surfaces—allowing it to revert

to ordinary use. Thus, cleaning and hygiene in shared student kitchens are not private chores but collective, methodical achievements of cohabitation.

4.9 Invites for another meal

Across the four dinners, a recurring outcome is turning one meal's end into a commitment for the next. Hosts and guests achieve this by extending invitations during goodbyes—thanking each other, commenting on the food, joking about "meeting again next time," and sometimes rescheduling to make up for missed attendance. In this way, farewell remarks (at the door, during clean-up, or in group chats) engage everyone and sustain the shared cooking plan into the future.

- Anchoring the next gathering in concrete plans (time, occasion, roles, invitees)

A. Anchoring the next gathering in concrete plans

Participants transforming vague talk of "next time" into a definite plan with specific time, occasion, roles, and invitees. While the previous process raises the idea of dining together again, this one aims to make it a reality—linking it to schedules. Through these practices, the next gathering becomes an predictable and accountable event rather than an empty promise.



Fig. 47. The already cleaned table

From Yi Du's hotpot, they linking the next hotpot to a birthday

Ricky: [Clapping hands] This dinner gathering wrapped up perfectly!

Lydia: [Shaking one's freshly washed hands] When's the next gathering? I can't wait!

Jessi: [Running over to say] I remember it's Ricky's birthday next week—let's do this again then!

Ricky: [Nodding] Great idea, let's make it a deal!

Fig. 48. Transcript

Here, the next gathering is anchored to a specific calendar occasion: "Ricky's birthday next week". Lydia's question about "the next gathering" prompts Jessi to propose the birthday as the occasion, and Ricky's "let's make it a deal" ratifies this as a concrete plan rather than a vague wish.

Methodologically, the process illustrates how participants coordinate practical details to turn invitations into organized future events, with recurrent methods including temporal anchoring (tying "next time" to months, occasions or precise times), task/role allocation (assigning tool/ingredient responsibilities), (re)configuring participation (naming invitees or confirming rescheduled attendees), and ratification (closing phrases like "It's settled then" to confirm shared binding plans). These elements cluster in late-meal talk (often during table-clearing), showing how participants collectively transform "we should do this again sometime" into a fully specified next occasion in their ongoing co-dining project.

5 Implications for Design

The findings from our study indicate that group provisioning often fails due to ineffective coordination when the activity is distributed across physical space. When groups split up to shop in different sections (Interpretive Process 3), standard tools like note-making apps or paper lists result in "coordination breakdowns," leading to duplicate purchases, missing items, and the need for shouting across aisles. This corroborates hybrid shopping research, which highlights that households frequently alternate between paper and digital lists but still struggle to coordinate shared tasks [14]. Furthermore, multicultural cooking groups face an added layer of complexity: the "translation gap" between a shopping list written in one language and product labels in another. Our participants frequently had to pause the workflow to negotiate cultural meanings (e.g., identifying the correct spices), significantly increasing cognitive load [23]. These issues align with early CSCW research, which warns that without shared visibility, distributed groups struggle to maintain the "mutual awareness" required for effective collaboration [6].

The analysis also highlights the friction involved in establishing a "definition of the situation"—specifically, the time spent creating an overview of available resources (ingredients, utensils like "Keith's pot"). While existing research suggests technology can support shared sense-making in tasks like trip planning [3], our study suggests a similar need in the domestic kitchen. Technology in this space should not just list items but provide a collective dashboard of the kitchen's state, helping participants negotiate the division of labour before the cooking begins.

Consequently, our findings suggest that design for shared meals must move beyond simple list-making toward supporting **distributed coordination**. Rather than a static checklist, future systems should function as "boundary objects" that bridge the gap between digital planning and physical action.

- **Supporting Situated Updates:** Our analysis of “till-side” interactions suggests that systems must support real-time synchronization. When a “Turn Job” (e.g., picking up milk) is completed by one member, it should be immediately visible to others to prevent the “double-work” observed in our study. This aligns with findings on the necessity of real-time state changes in distributed groupware [6, 14].
- **Bridging Cultural Knowledge:** To address the “translation gap” observed in multicultural groups, design interventions could integrate semantic translation—not just of words, but of culinary concepts (e.g., suggesting local substitutes for specific cultural ingredients). This follows cross-cultural design guidelines to reduce the friction of identification in foreign supermarkets [23, 25]
- **Context-Aware Sorting:** Finally, recognizing that shopping is a spatial activity, systems could reduce the cognitive load of navigation by organizing “sub-lists” based on store layout or aisle, thereby streamlining the physical distribution of labour. By integrating these features—lightweight notifications, shared awareness cues [31], and cultural bridging—technology can support the “high-reliability” nature of the shared meal, allowing students to focus less on the logistics of coordination and more on the social act of hospitality.

6 Conclusion

Current research in Human–Food Interaction investigates how technology can enhance shared meals socially, sensorially, and practically. Systems like WeScream and Living Bento enrich social engagement and emotional expression during eating. Robots and voice agents assist cooking by guiding steps and monitoring ingredients. Multimodal and assistive kitchen technologies focus on optimizing the user experience, improving accessibility, reducing errors, and increasing confidence during meal preparation. Coordination tools, including shared calendars, inventory apps, and role-suggestion systems, support planning and task distribution. Telepresence and social robots enable remote participants to meaningfully engage in meals. Overall, most technologies target individual stages rather than the entire end-to-end process that has been identified by the interpretative processes.

Our study focuses on highlighting the full interpretive process that constitutes a shared meal, rather than examining isolated stages in separation. The implications for design emphasise the need for collaboration and shared overview tools, both in terms of knowing who has what and how resources are distributed across the group. Findings show that group grocery shopping breaks down due to poor coordination, language mismatches, and unclear awareness of who is responsible for which items, leading to duplicate purchases and missing ingredients.

These challenges directly relate to a key research gap: current technologies for cooking and meal preparation primarily support individuals or single-user tasks, but rarely address the complexities of multi-person coordination, resource negotiation, and shared decision-making that are central to group cooking experiences.

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A Attendance Log and Contribution Scoring

The below has the table for the attendance reports (*Table 2*) and the scoring tables for contributions *Table 3*.

Table 2. Attendance logs

Date	Type	Absentees
07/10/2025	Online Meeting	-
21/10/2025	Online Meeting	Yi Du
28/10/2025	In-person meeting	-
11/11/2025	In-person meeting	-
02/12/2025	Online Meeting	-
09/12/2025	In-person meeting	-

(See next page for contribution scoring)

Table 3. Contribution Scoring

Name	Contribution to group report	Mark (1 is low, 5 is high)	Agreed by
Nana Oye Akrofi Quarcoo	- Searching of related papers - Writing Related work sections; Cooking Smart Kitchen and Dining Systems & research gap - Conclusion - Refine third of the section of implication of design	4.5	Santhusha, Yi Du, Seowoo, Ryan, Yifan
Ryan Varghese Mathew	- Planning and distribution of the findings section - Half of the findings section (preparing the materials, cookings, setting up the table) - Implications for design	5	Santhusha, Yi Du, Seowoo, Nana Oye, Yifan
Santhusha Mallawatantri	- Methodology section (full) - Half the section of abstract - CCS concepts + keywords - Refine third of the section of implication of design - Migration of draft to overleaf - Appendix - Final formatting + check	4.5	Ryan, Yi Du, Seowoo, Nana Oye, Yifan
Seo Woo Jung	- Structured the overall Related Work section, including defining the three-part framework - Wrote the Related Work sections on Social Eating & Commensality and Technology-Supported Coordination section - Wrote the full Introduction section - Supported group organisation by coordinating schedules, managing deadlines, and summarising meeting discussions - Refine third of the section of implication of design	5	Ryan, Yi Du, Santhusha, Nana Oye, Yifan
Yi Du	- One-third of the findings section (focuses on research regarding the pre-preparation stage of shared meals) - References and crafting bibliography	4.5	Ryan, Seowoo, Santhusha, Nana Oye, Yifan
Yifan Shi	- One-third of the findings section (focuses on serving food and food, cleaning up, invites for another meal and goodbyes) - Half the abstract section	4.5	Ryan, Seowoo, Santhusha, Nana Oye, Yi Du