Project 2: Brainstorming and Communicating Design Solutions

We are designing an educational experience that pairs coffee experts with coffee novices.

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1. Executive Summary

Our project explores the problem space of pairing enthusiasts with experts to encourage a unique social experience that involves learning and sharing knowledge about a topic or activity. To define the project scope, we decided to focus on coffee. Many people new to a craft like coffee do not know where to start, or who they can consult for guidance. The consumers in this problem space are the people looking for an educated companion to lead them in an experience-driven activity. The providers are field experts, professionals, and specialists who will curate the activity and share their knowledge with the seeker. Currently, curious beginners interested in learning more about coffee or coffee-making usually research or ask around to establish a good starting point. They spend endless hours online reading up on different coffee-making styles, types of coffee, or coffee classes offered. Following this in-depth and time consuming research, they must then find a local event or location in which they can experience the aspect of coffee they are seeking more knowledge in. On the provider side, there are experts or passionate coffee-drinkers who would love to share their knowledge but can't always find people interested in what they have to offer. We hope to connect these people together to create an enriching and enjoyable experience for everyone involved.

2. Problem Insight

Our initial research on the target demographic has revealed that consumers would like expert-curated experiences that teach them about a niche interest. The consumers we interviewed revealed that they are willing to pay for these experiences and would be satisfied with small group experiences. On the other side, the experts we interviewed revealed that they enjoy their hobbies and would love to teach curious minds about them. When asked about payment, our experts agreed that while payment is desirable, the fundamental drive is their interest in teaching their hobby to others.

Another big take-away from our research was focused on current resources. In our interviews and surveys, we asked about competitive services like Yelp, Groupon, Airbnb Experiences that offer similar services. After analyzing the responses, our team found a considerable number of problems with the current services. For Yelp and Groupon, the complaints centered around their lack of trustworthiness. Our respondents believed Yelp reviews were biased because Yelp carries the reputation of sponsored reviews. Groupon seemed like it benefits the company more than the consumer. Airbnb Experiences, the service which seems most similar to ours, was not used or even heard of by most of our interviewees

Another important facet of our problem space is the different types of online information and resources. Some of our interviewees used social media (Twitter, Discord, etc) for gaining information on these niche topics like coffee-making. The resources that interviewees reported were problematic because they never actually helped a user gain practical field knowledge, rather they provided quick tips for a shallow understanding of a process.

After our initial research, we chose to limit the scope of our problem to a particular niche interest: coffee. Coffee seems to strike a perfect balance; it has an intimidating “pretense that coffee culture carries.” Furthermore, online guides seem useful but are impractical for actual learning because it’s hard to “describe certain things you’re having trouble with when you’re using your sense of taste.” Because coffee is a tactile and taste-driven experience, it’s hard to learn from online guides.

Because we had so much input on the user side for learning about coffee and a fruitful interview with a professional barista, we will be exploring creative solutions for connecting coffee novices and experts as we move into the ideation phase of developing a solution for this problem.

3. Brainstorming Solutions - Link to our Brainstorming Ideas

1. Ask a friend knowledgeable about a topic they're interested in to teach about it.	**51.** Self-taught brewing
2. Creating a blog post experts could comment and reply to.	**52.** Brew for friends and get feedback
3. Use Atlas Obscura to find lesser-known coffee places.	**53.** Follow a written guide/how-to book
4. Using online network to find coffee experts (friends or friends-of-friends).	**54.** Trial and error brewing
5. Look on Google Maps for nearby "coffee shops".	**55.** Become a regular at a coffee shop and try out all of their coffee
6. Go to the user page of a Google Maps Local Guide to find out where they've tried.	**56.** Travel abroad to try international coffees
7. I use the "looking for recommendations" feature on Facebook to ask about coffee.	**57.** Become a barista
8. Ask about coffee making techniques from baristas at my favorite coffee shop.	**58.** Coffee bean picking
9. Look for advertisements around campus.	**59.** Observe barista as they make coffee
10. Visit a farmers market and explore tables for local coffee shops.	**60.** Coffee newsletter
11. Travel to a country where coffee is a huge export.	**61.** Shadow a barista
12. Ask local coffee companies where they get their beans.	**62.** Join a Discord channel
13. Do a local coffee crawl.	**63.** Post to a forum
14. Stake out coffee places and build rapport with other coffee drinkers.	**64.** Written articles
15. Host your own coffee-making event and advertise on social media.	**65.** Blind coffee tasting
16. Tweet at followers asking about who loves making coffee and teaching techniques.	**66.** Blind coffee smelling

17. Do an Instagram poll asking people to vote "yes" if they wouldn't mind teaching about coffee.	**67.** Video chat with expert
18. Find a coffee bean shop nearby and ask workers there for advice.	**68.** Brew coffee and have an expert try it
19. Join a local community of coffee lovers.	**69.** Buy a brewing kit
20. Follow a wikiHow tutorial for different types of coffee-making.	**70.** Go on a tour to a famous coffee shop
21. Order a different drink every time you visit a coffee shop and watch them make it.	**71.** Play a coffee brewing game
22. Ask baristas at a chosen coffee shop if you can observe them making coffee for a few hours.	**72.** Drink lots of coffee every day
23. Go to different cultural restaurants (Italian, French, Indian, etc) and observe their coffee-making techniques.	**73.** Get a coffee encyclopedia/reference book
24. Experiment with adding different flavors to your self-brewed coffee.	**74.** Track the process of the making of coffee from bean to liquid
25. Browse amazon for different coffee-making listings and read reviews.	**75.** Email an expert
26. Use an educational coffee mobile application	**76.** Custom online tutors
27. In-person consultation	**77.** Stack Overflow for Coffee Making
28. Talk to an expert over-the-phone	**78.** Asking Hipsters
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34. Use a subreddit	**84.** “Drink a lot of shit coffee” - Josh
35. Watch a tailored YouTube playlist	**85.** Try pouring cappuccinos and fail with the milk
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47. CoffeeCon - coffee convention	**97.** Box Hair Dye-esque coffee kit
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50. Podcast	**100.** Instant Coffee

4. Design Criteria

1. ***Convenient***: The user should be able to access the platform remotely through many devices, and be economical in terms of resources needed to do so.
    a. The purpose of this design criterion is to ensure users spend as little time and money when learning about a topic or activity. During the prior potential user research phase, we found that users spend countless hours researching methods and worry about spending money on equipment/resources that may be unsatisfactory. Successes of this criterion include the user finding it cheaper and timely to use our solution rather than using alternative methods in learning about coffee-making, as well as cross-platform and device compatibility. Failures include restricting user access based on device compatibility or making the cost higher for users to use our solution than learning about an activity or topic at their own direction.
2. ***Credible***: The coffee experts must have professional or personal experience that can be verified; such credentials and experiences will be monitored through a legitimate reviewing system.
    a. The purpose of this design criterion is to ensure users are getting expert knowledge and guidance from a legitimate expert. While this can be supported by thorough internal review of an expert wanting to be on our platform, it can also be enforced by user reviews of the expert and the experience they had. These reviews and ratings will be monitored so that they are only given by users who are verified to have completed the experience. During the prior research phase, we found that many users distrust review on online platforms because they are so easily tampered with, even by people who have never actually used the service. Successes of this criterion include experts passing interviews, providing resumes and references as well as users being prompted to give a review after they complete an experience. Failures include hiring experts with no tangible basis, and allowing an open reviewing system in which any user can rate an expert or experience, even if he/she has not completed the experience.
3. ***Customized***: The experience will be tailored to the user's unique interests and learning style and consider their geographic location.
    a. The purpose of this design criterion is to ensure users have the power to choose their learning content and complete the experience at a pace and with a method that best suits them. During the prior research phase, we found that many users are overwhelmed by the massive amount of content and coffee-making tutorials found online, which may not accommodate user skill or factor in specific interests. Successes of this criterion include having a large, diverse, searchable collection of learning material and experts that users, as well as having additional location filters and specialized topics users can apply. Failures include having a

large collection of learning material and experts that all have a single teaching style, lacking diversity in platform content, and lacking filters and other functionality that inhibits user customization.

5. Converging: Idea Selection

After creating a brainstormed list of 100 solutions, we converged our ideas by first creating an affinity diagram (see Appendix A). After laying out each individual idea, we grouped them into 6 clusters. The first cluster is “At-home experimental learning”, which consists of ideas users can complete on their own time and pace, usually through buying equipment and trying new methods independently. Examples include buying a brewing kit and blind coffee smelling. The second cluster is “Passive online learning”, which focuses on ideas users complete on the internet that does not require much interaction, but rather reading, scrolling, and searching. Examples include coffee newsletter and reading manuals. The third cluster is “Event-focused research”, which consists of ideas the user completes by attending an event related to coffee and coffee learning. Examples include attending workshops and coffee-bean picking. The fourth cluster is “Expert-consultation research”, having ideas in which the user seeks guidance and advice when researching about coffee. Examples include emailing an expert, or brewing coffee and having an expert try it. The fifth cluster is “Active online research”, which contains ideas the user completes by actively interacting with online learning resources and platforms. Examples include playing a coffee brewing game and completing a Udacity course on coffee. The last and sixth cluster, “Passive online learning” consists of ideas the user completes by passively reading, watching, or searching online resources and platforms. Examples include reading a coffee subreddit and listening to a podcast.

Upon creating these clusters, we decided to group them once again in three larger clusters, each consisting of two clusters mentioned above. The “Self-led” larger cluster includes clusters “At-home experimental learning” and “Passive online learning”. This cluster’s theme align with ideas the user can complete on their own time and convenience. This cluster inspired the convenience design criterion. Larger cluster “Expert-led”, includes “Event-focused research” and “Expert-consultation research” subclusters. This cluster contains ideas which require expert involvement with a user. Along with research completed in Project 1, our users find trustworthiness and expert guidance important factors. As a result, we came up with the credibility design criterion, which ensures expert and experience quality. Lastly, we created the larger cluster “Online research”, which includes clusters “Active online research” and “Passive online research”. The ideas from both of these subclusters include researching online platforms and resources. Since our users have different learning styles and certain interests, we picked the customization design criterion to account for each user’s particular preferences.

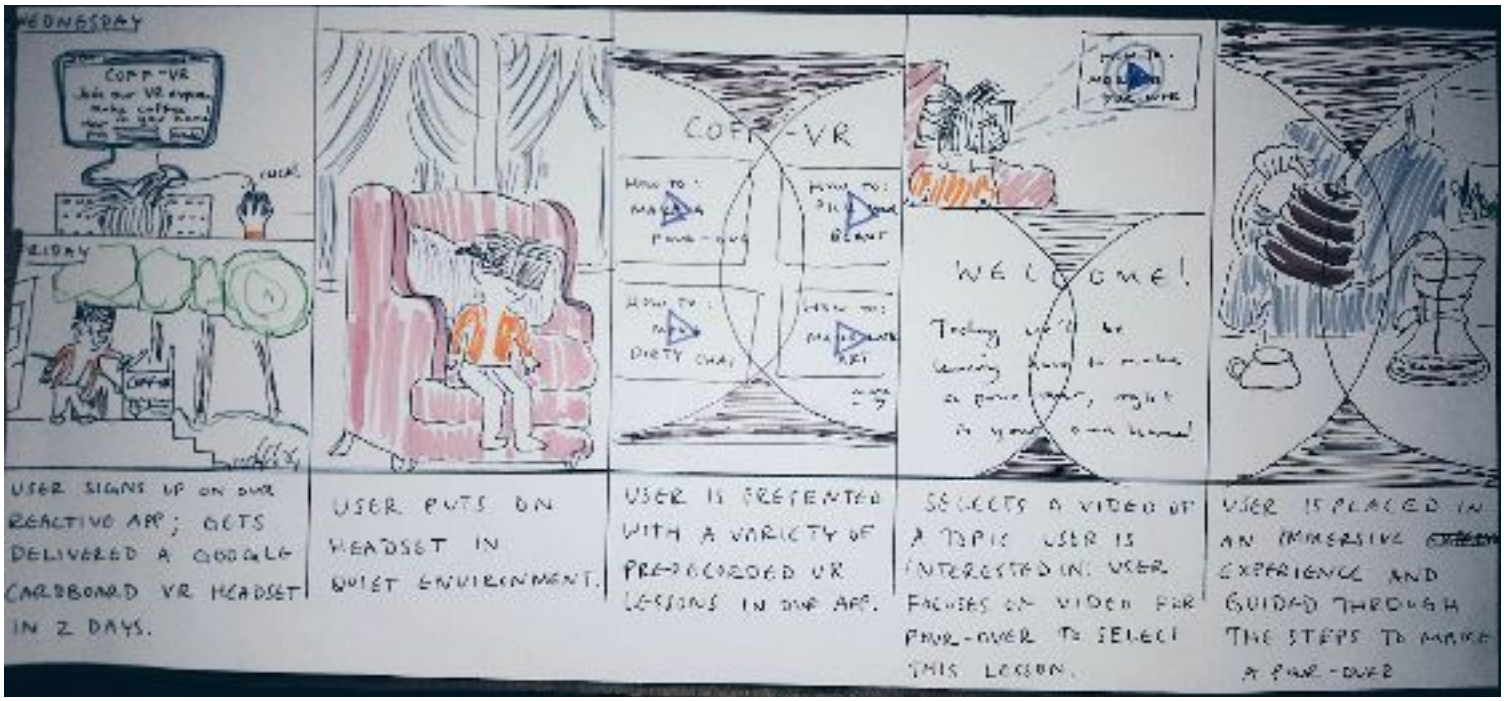
From these three design criteria, we produced three final solution ideas. The first prototype, CoffVR, is an online platform with virtual reality experiences on particular coffee-making techniques and coffee-related walkthroughs that are guided by an expert. The second prototype, Coffee Box Subscription, sends monthly equipment and material picked out by an expert, based on a user's specific coffee interests. The third prototype, Expert-led, is an online and mobile platform in which users can search, request, and view experiences with an expert, chat with them, and meet up with the expert in-person.

6. Low-Fidelity Prototypes

Prototype 1: CoffVR

This prototype focuses on the user receiving an expert-curated experience in a virtual reality setting. The main stakeholders for this prototype are users experiencing the virtual reality lesson and the credited baristas who pre-record the experience. This solution addresses the problem people often face when learning about a new topic or activity. CoffVR is directed to individuals newly interested in coffee-making and want to learn in an immersive environment through virtual reality. CoffVR is a mobile application in which users sign up and order a Google Cardboard. They will then receive the headset within 2 days, which they will then setup. The user will open the phone application and choose from multiple virtual reality experiences, slide the phone into Google Cardboard, and select a lesson. Through this interaction, users can complete the experience at their own convenience, and pace themselves to fit their learning style. The virtual reality experience showcases an actual barista guiding the user through making different types of coffee. In this way, users are paired with an expert guide, which walks the user through coffee-making techniques. Objects in the real world relevant to the solution include VR headsets (Google Cardboard, etc), smartphones, and VR video media.

Meet User Josh watching expert Philippe in virtual reality

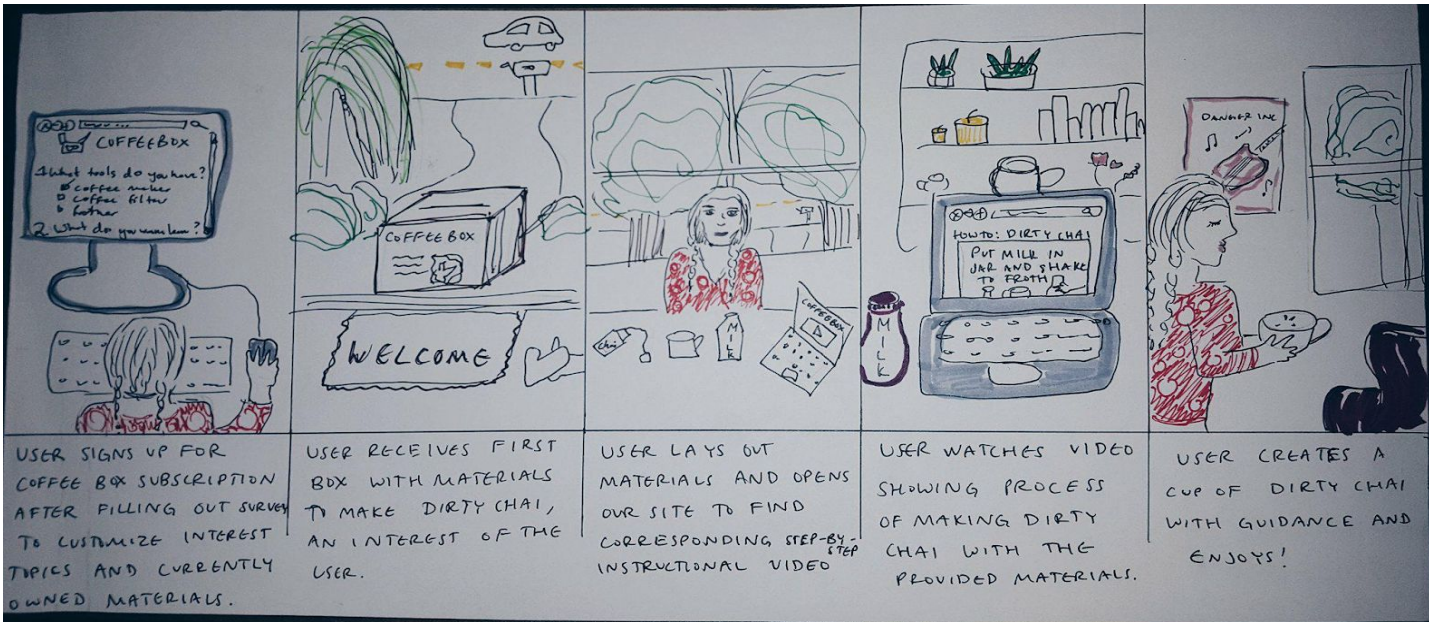


Prototype 2: Coffee Box Subscription

Beginners at an activity or topic spend countless hours reading, browsing, and shopping to begin a hobby or interest. Looking at the example of someone interested in coffee, this solution takes out the guesswork and time done by a novice by sending a customized box with material and equipment needed to learn about coffee-making. Stakeholders in this prototype include users who will learn from instructions and items in the box, and experts who will pick out items and create instructables which serve as learning material for the user. This prototype will facilitate an expert-curated experience through material that has been written and picked out by a barista. To begin, the user first signs up online for a coffee box subscription service. The user can specify certain techniques or specifics that are interested in. With the data provided, a credible expert picks out materials and writes content on coffee-making techniques that will be shipped in a box to the user. In this way, the user has a month to complete the boxed experience at their own convenience. Upon completion, the user will be prompted to submit feedback and a review of their experience. A user can suggest improvements or submit requests for the next box they will receive. Several aspects of the problem space are addressed with this solution. This prototype is convenient as the experience gets delivered to user, which the user can complete experience at their own time. In addition, a credible barista or coffee expert is involved with this experience by handcrafting the subscription box. Lastly, this solution caters towards user preferences by allowing an experience that can be completed at an individual's own pace. The

user is also encouraged to give feedback so that future boxes can be as optimally crafted as possible. Real world objects relevant to this solution include coffee beans and coffee-making equipment (filters, presses, tampers, etc) that an expert deems suitable to send in a box.

Meet user Maria watching a video by expert Philippe



Prototype 3: Expert-Led

When reading online reviews, there is no way to get your specific questions answered by an expert in real life. For an activity such as coffee, which is a very tactile and gustatory experience, it's hard to learn without practical field knowledge. In addition, the rich field of coffee has many nuances which can be navigated at the preference of the user, which makes it more customized and personal. This solution solves this problem by connecting a credible expert (verified with professional experience and resumes) to a novice interested in learning more about coffee. In addition, another feature set of this solution would be to focus on a legitimate reviewing system for these experiences, as similar solutions were deemed 'fake' and untrustworthy in our interviews. Consumers are the focus. This solution centers on making experiences that teach practical knowledge and customize it for the users. In addition, all the feature sets we've identified for this solution are centered on making sure the user trusts our system. The technology that underlies this solution is a website that would serve as a portal to connect the consumers and the producers. Features of the website would include a reviewing system with verified purchasers and preference filters, and specific request boxes for the expert. The main interactions between the user and the website are to identify the experience that fits your preferences based on reviews, cost, specific interests, etc. Upon finding that experience, the user attends the expert-led experience and gets detailed field assistance in the specific interests they chose (i.e. bean roasting, using a french press, etc). They are shown the process first hand and actually attempt it with the instructor and are able to ask questions and get tips. After the experience, the users are prompted to write verified reviews of the experience and answer feedback to make the experience better in the future. This interaction hits on some of the design criteria we have identified, like customizability and credibility. By filtering for an experience and adding requests, you can get a custom event from a seasoned expert. In addition, the ability to leave verified reviews allows the review system to be considered legitimate and not easily hackable.

Meet user Scott and expert Philippe

7. Reflection

Part 1 of the project was definitely very helpful for understanding the actual issues that faced our potential stakeholders. In our interviews, we learned a lot about details like payment, the types of activities which experiential learning was optimal, and problems with current alternatives. There were quite a few other things we were faced with, like thinking about the potential context of any solutions, and making ideal personas of our stakeholders. In addition, we limited our scope from learning to the specific topic of learning about coffee.

In Part 2, the Brainstorming activity was very helpful in allowing us to come up with diverse solutions that fit our design criteria. By first listing anything and everything, and then by creating clusters with an Affinity Diagram, we were more likely to find out of the box solutions. In addition, it prevented us from making the common mistake of sticking to one particular solution from the beginning.

We also got some really great feedback from the show and tell aspect of the project. It allowed us to think about the combination of some of our solutions (i.e. Could the box subscription could come with a VR video instead of a regular one?) and the potential use of different technology (i.e. Why VR video instead of using AR to overlay these objects in real life?). It also allowed us to take into account the limitations of the technology we had chosen. A VR researcher in education gave us feedback that VR experiences have a time limit, otherwise the user can get nausea. In addition, VR headsets like Cardboard have very limited input mechanisms as they exist now (however, there are some very interesting new input modalities,

like Scratch VR). There are also some open questions on the implementation of the VR solution and the Box Subscription solution: How do you assure quality of experts? Where does the production of the material come from? Are there scaling issues with physical inventory?

One aspect of the project thus far that was a bit unclear was the usage of the personas in the creation of our prototypes. It makes sense that our prototypes should involve the characters that describe our stakeholders, but we initially were using the prototypes as surveys of the solutions. However, these solutions should always tie back to the stakeholders, and we have appended our storyboards to do exactly that.

Appendix A

A. Brainstorming

100 Brainstormed Ideas - Link to our Brainstorming Ideas

1. Ask a friend knowledgeable about a topic they're interested in to teach about it.	**51.** Self-taught brewing
2. Creating a blog post experts could comment and reply to.	**52.** Brew for friends and get feedback
3. Use Atlas Obscura to find lesser-known coffee places.	**53.** Follow a written guide/how-to book
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12. Ask local coffee companies where they get their beans.	**62.** Join a Discord channel
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advertise on social media.	
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22. Ask baristas at a chosen coffee shop if you can observe them making coffee for a few hours.	**72.** Drink lots of coffee every day
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28. Talk to an expert over-the-phone	**78.** Asking Hipsters
29. Attend workshops	**79.** Buy Expensive Machinery & Read Manuals
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32. Look at a directory	**82.** Local Coffee Spots (TopTime, Revelator)
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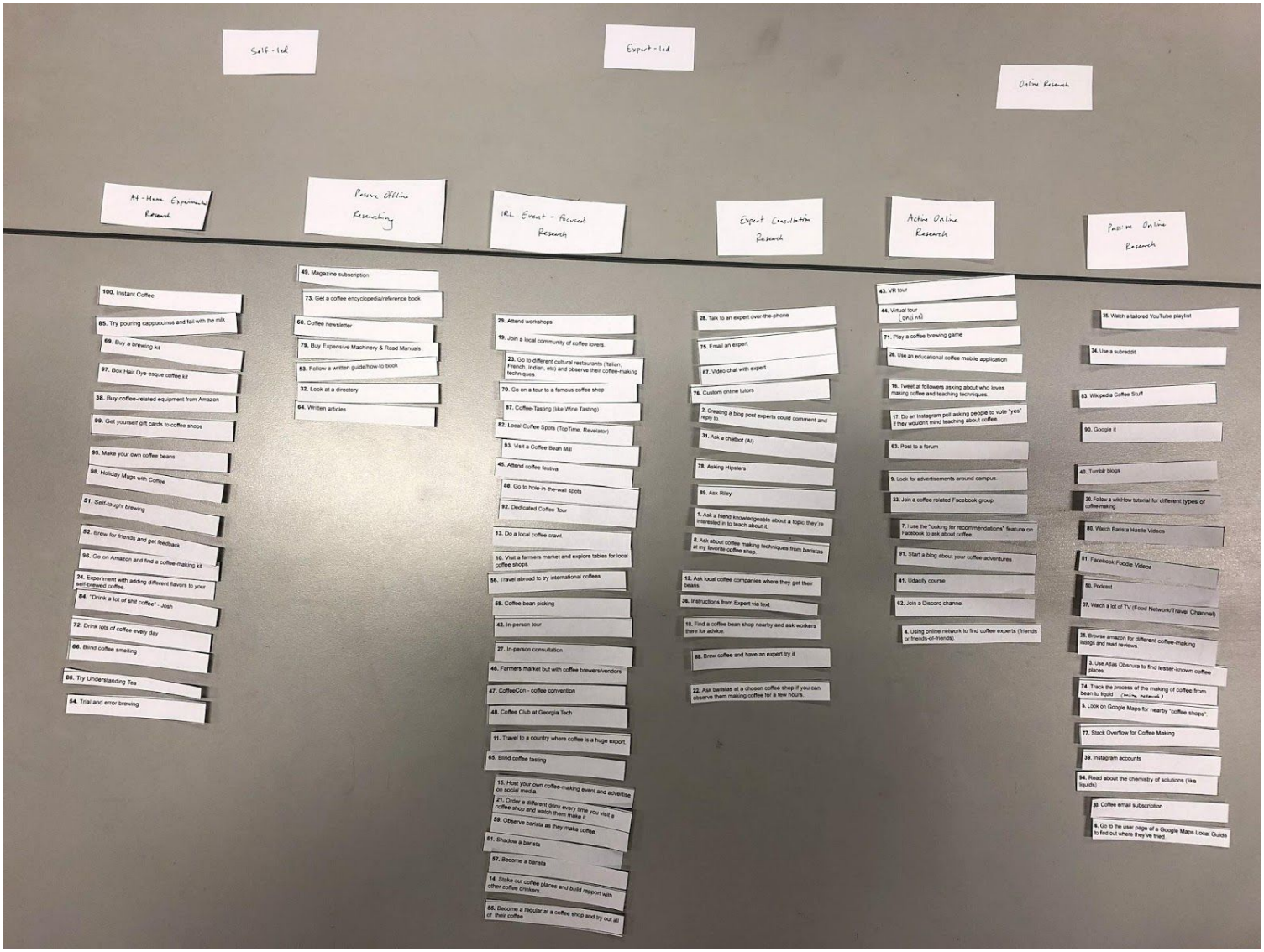
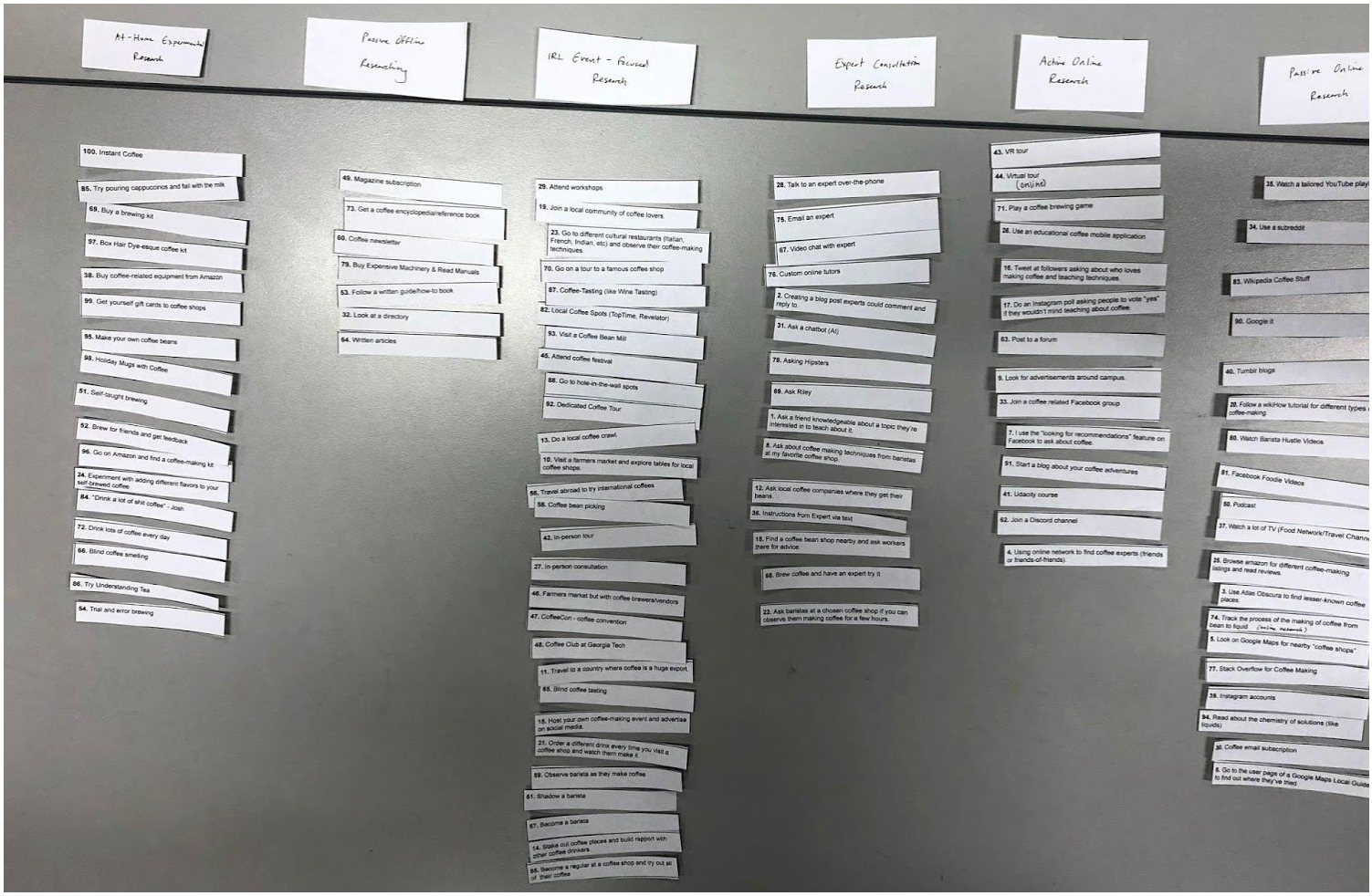
B. Idea Selection / Convergence

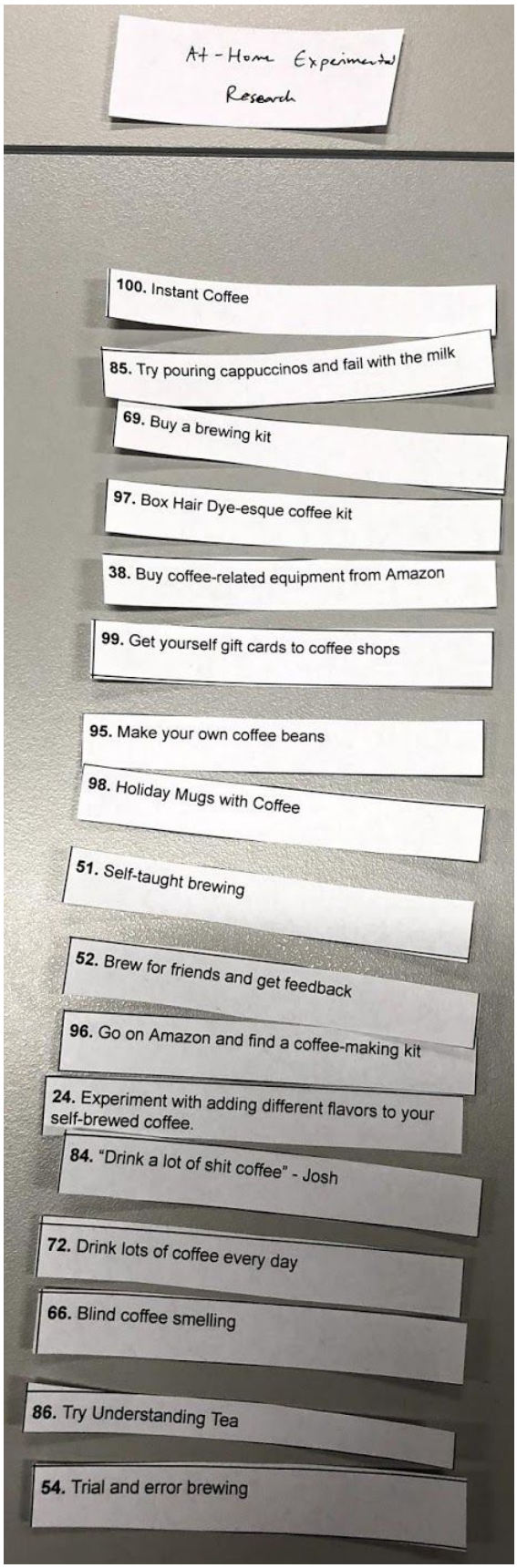
1. Affinity Diagram



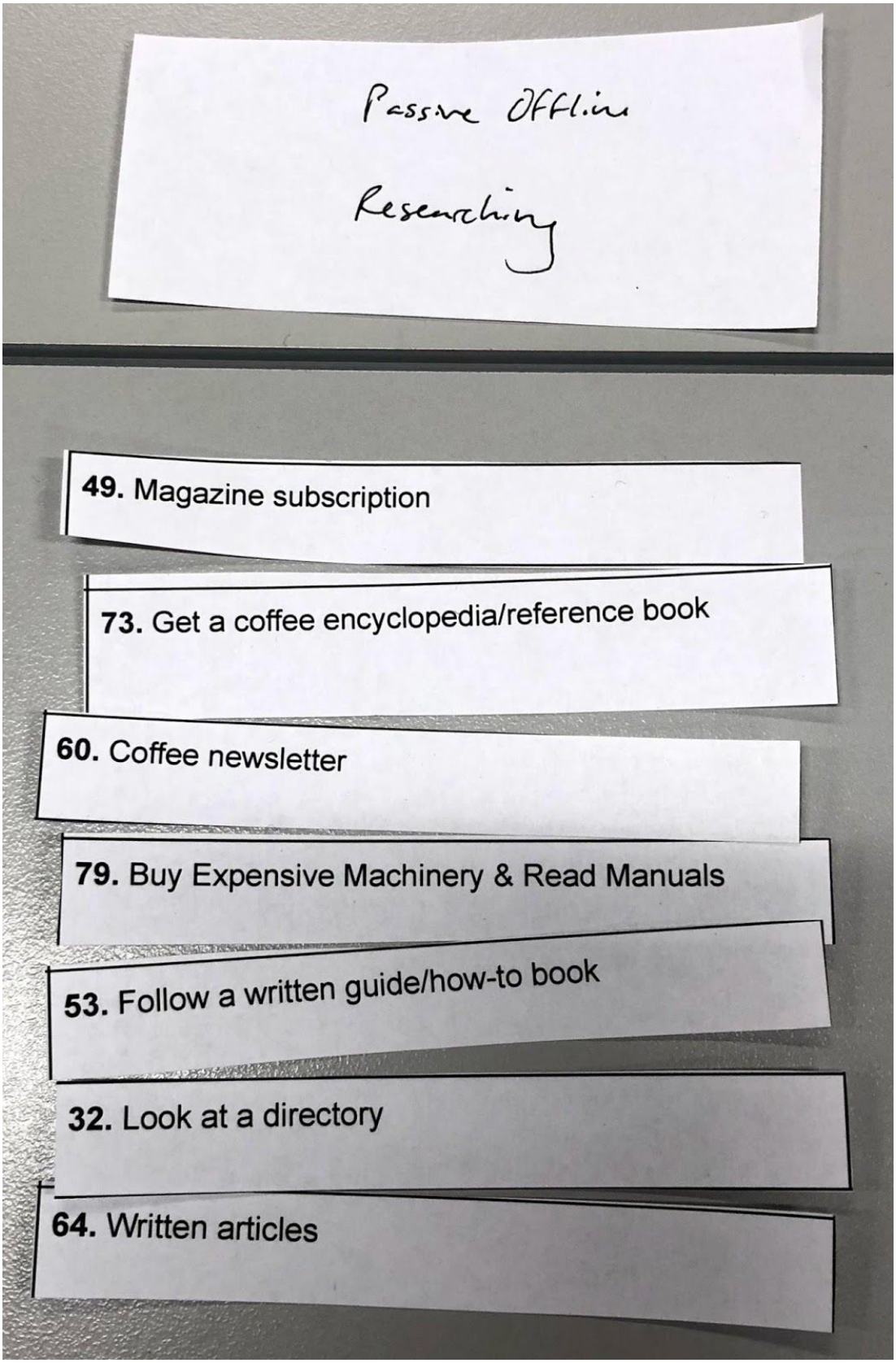
2. Affinity Diagram with 6 clusters



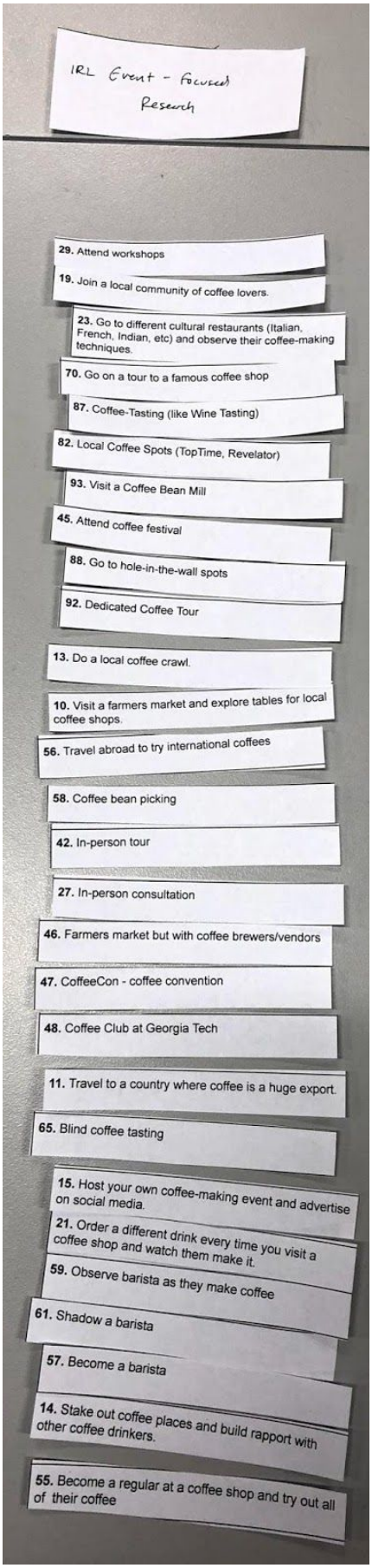
3. Cluster 1: At-Home Experimental Research



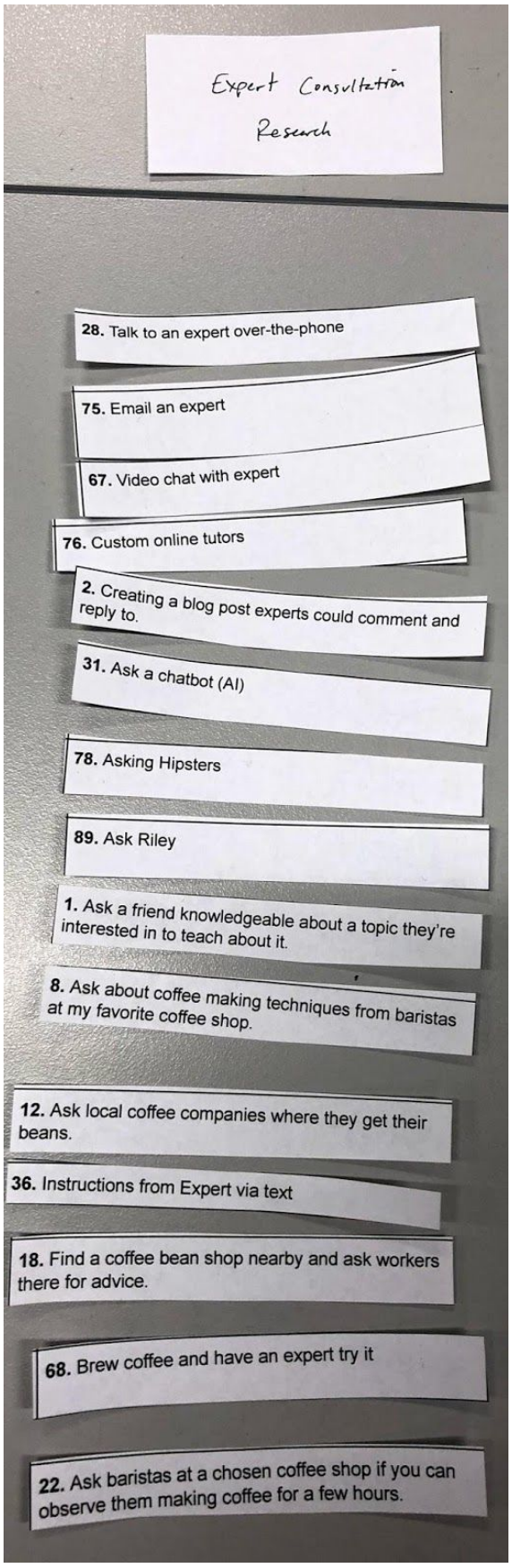
4. Cluster 2: Passive Offline Researching



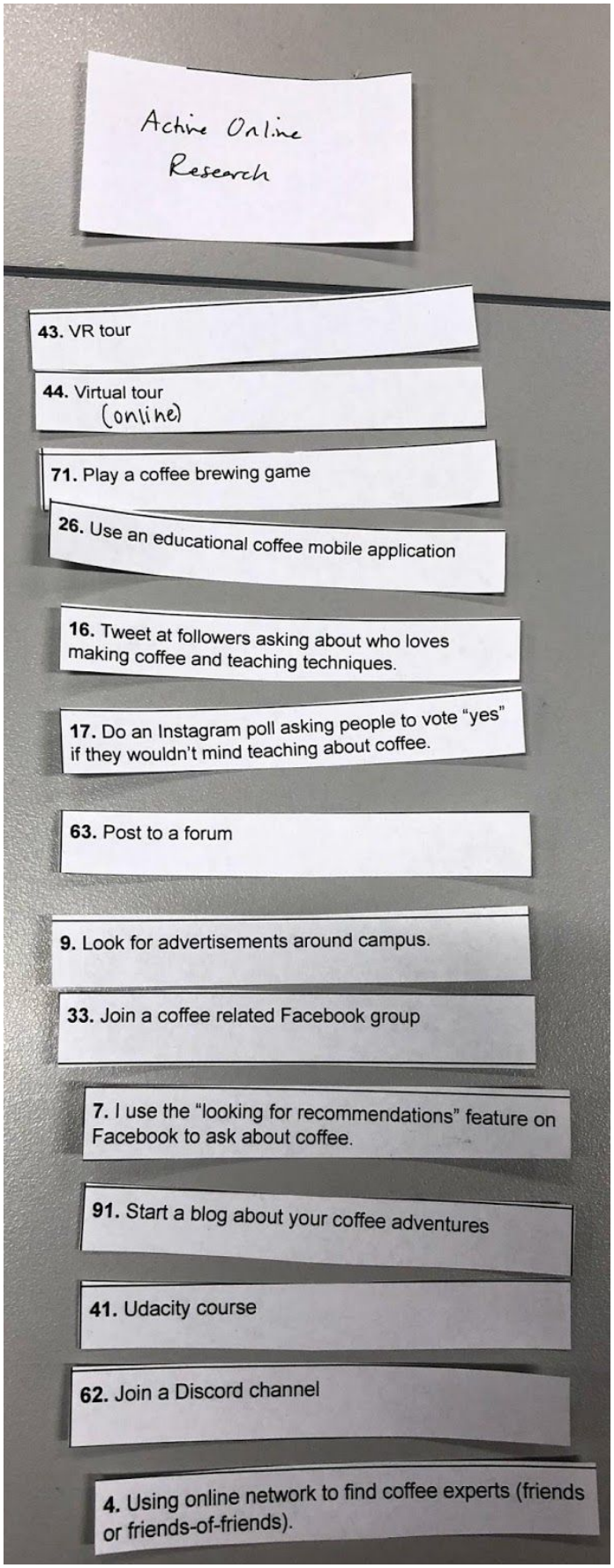
5. Cluster 3: Event-focused Research



6. Cluster 4: Expert Consultation Research



7. Cluster 5: Active Online Research



8. Cluster 6: Passive Online Research