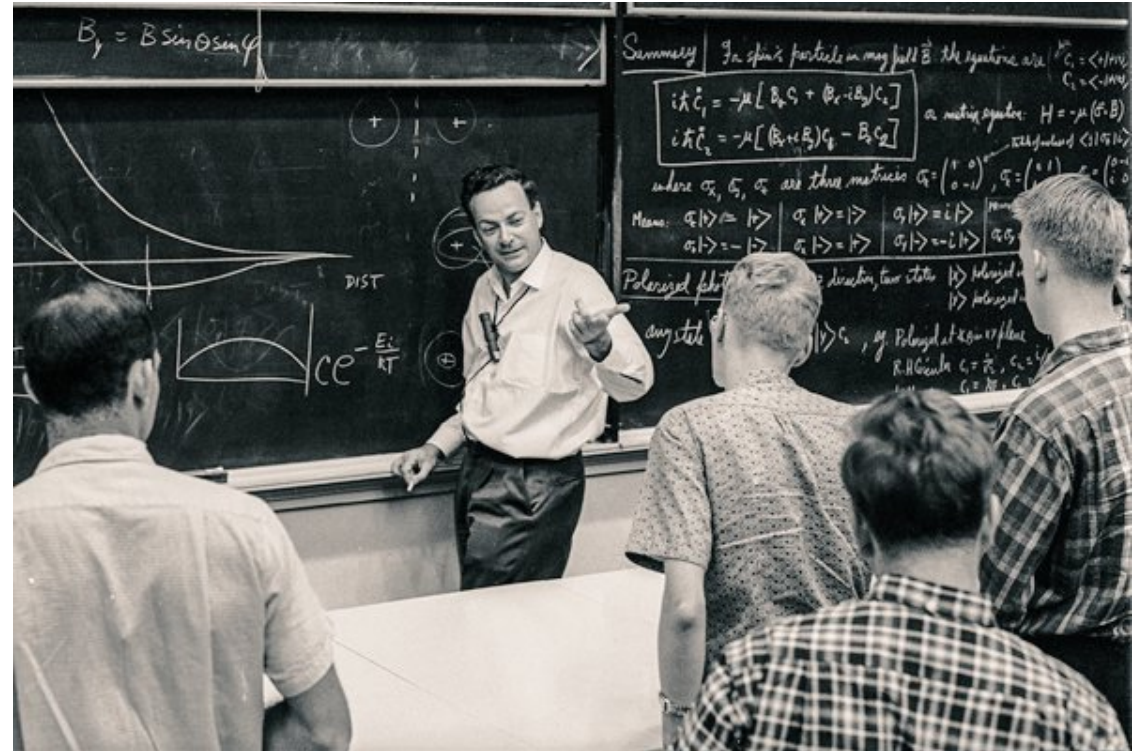


# Formative research: an essential part of the public health toolkit

Andrew Thorne-Lyman

It is imperative in science to doubt; it is absolutely necessary, for progress in science, to have uncertainty as a fundamental part of your inner nature. To make progress in understanding, we must remain modest and allow that we do not know

-Richard Feinman



Formative research allows us to better understand that which we do not know and use it to improve research (and programs)

# What is the nature of formative research?

- Exploratory in nature
- Often conducted early on in the research process to understand how populations understand/view something, to develop interventions, to adapt them to the local context, or to evaluate their viability.
- Research may involve testing but also reformulating hypotheses
- Interviews often open ended; allow for domains of interest that you had not planned on to emerge...
- Semi-structured interview guides help to 'stay on track'

# What role can formative research play?

- Identify whether an intervention is acceptable to a population
- Identify different delivery options (to find the best way!)
- Help target interventions to identify those most likely to adopt, or who within a household should be given to...
- Revisit whether initial assumptions still hold true when implementing at scale

Opinion March 14, 2018

Test and prepare before you implement

**The best designed programmes sometimes falter on the ground because they skip an important stage: testing, and the preparatory work needed to get implementation right.**

By Shireen Jejeebhoy  
6 min read

Many of us working in the social sector have designed a 'perfect' programme, only to find, at the time of its evaluation, that changes observed were nowhere near what we expected. What happened?

Many things. For one, social change is slow and expecting to, for example, reduce child marriage or violence against women and girls significantly in a two-year period is possibly unrealistic.

Second, since monitoring programme implementation is often not prioritised, we don't know what the on-the-ground situation is, or whether the programme is being implemented with the fidelity demanded in its design.

But third, and the topic of this article, is our tendency to go from design into implementation without sufficiently testing the waters, without investing enough time in preparatory work and/or without spending enough time supporting community-based facilitators in rolling out the intervention confidently.

'Good' programme design isn't enough

<http://idronline.org/test-prepare-implement/>

# Key differences between quantitative and qualitative data collection approaches

	Quantitative	Qualitative
Type of questions	Closed	Open ended
	Getting to the point quickly	Probing for more
Research approach	One-time	Iterative
	Structured	Unstructured/semi structured
	Standardization of data collectors important	Ok to be less standardized; interviewer makes decisions

# What sample size is adequate?

- The more the better...ideally you would collect until you fully understand the topic
- Goal is to keep on going until you are able to understand patterns, validate. If a heterogeneous population, will need more...
- Use of multiple methods to triangulate findings can be important
- In practice, often determined by resources (and time)

# What methods are used?


- Often involves multiple types of methods
  - Focus groups
  - Key informant interviews (key informant, recipients or beneficiaries)
  - Observations
  - Free listing, other ranking exercises
  - Pile sorts
  - Market surveys
  - Just to name a few...

# Examples of formative research questions

- Explore what foods are eaten/avoided by adolescents in a population to inform nutrition-related BCC
- Explore whether a cash transfer could be a possible intervention to delay marriage in a given setting (and if yes, how much and to whom)
- Which animal source foods are viable to provide in a child feeding trial in Uganda?
- What neighborhood level factors influence activity patterns among African Americans in Baltimore?



## Example: Developing an adolescent nutrition intervention through community kitchens (CK) in Peru

- **Objective:** Understand perceptions of the women and adolescent girls participating in the CK, focusing specifically on the ability to increase iron-rich food intake, particularly animal food sources.
- **Methods:** 42 semi-structured interviews (26  16 adolescent girls), 24 pile sorts, 4 market surveys, 32 photo projections to explore body image
- **Topics:** Perceptions and knowledge about diet, nutrition and health, as well as more specific aspects related to anemia and iron-rich foods.

# Some perceptions

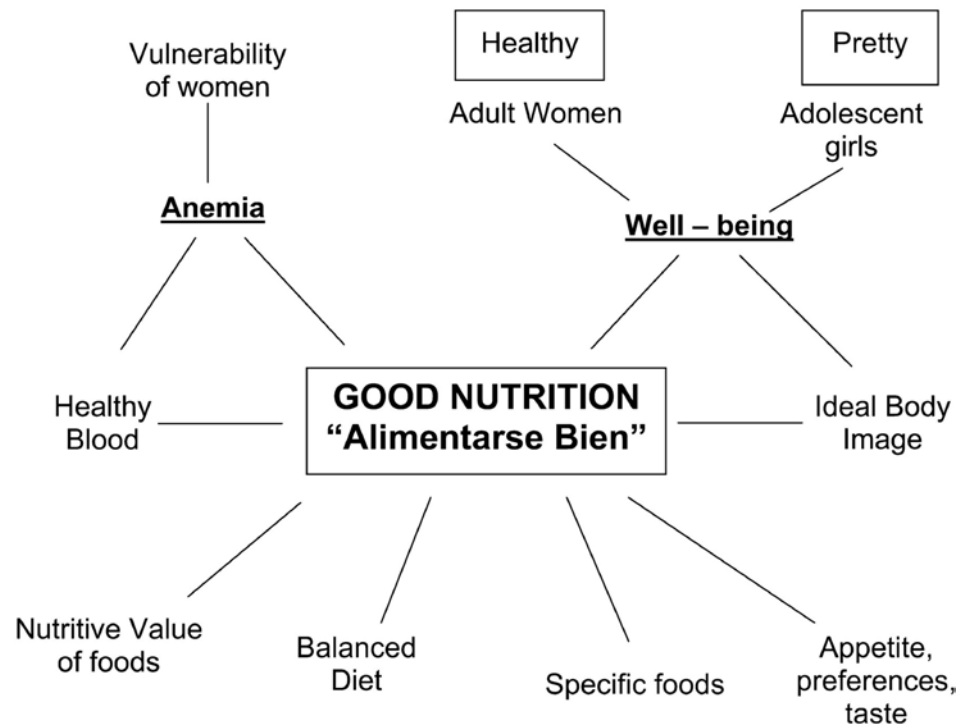
## **Balanced meals.**

A nutritious meal is one that was considered to be “balanced”, signifying primarily that the combination of foods or ingredients, and combination of dishes in the meal, is appropriate, e.g., if the main course is “heavy” (e.g., beans), then the soup should be light and vice versa, and there should be variety.

## **Anemia**

The major cause of anemia was attributed to a “poor diet” “alimentarse mal” (25/39 mentions), that is, insufficient quantity and quality of food or a neglect of good feeding habits such as not keeping to meal times. The following quotes illustrate these beliefs: “Anemia is because one does not eat well, (‘no se alimentan bien’), either because there isn't enough (money), perhaps because one doesn't have work or does not eat very well” (woman aged 50 y); “The girls become anemic because they do not like to eat so as not to get fat and they prefer to drink sodas with sweet breads or any sweet food” (girl, aged 12 y).

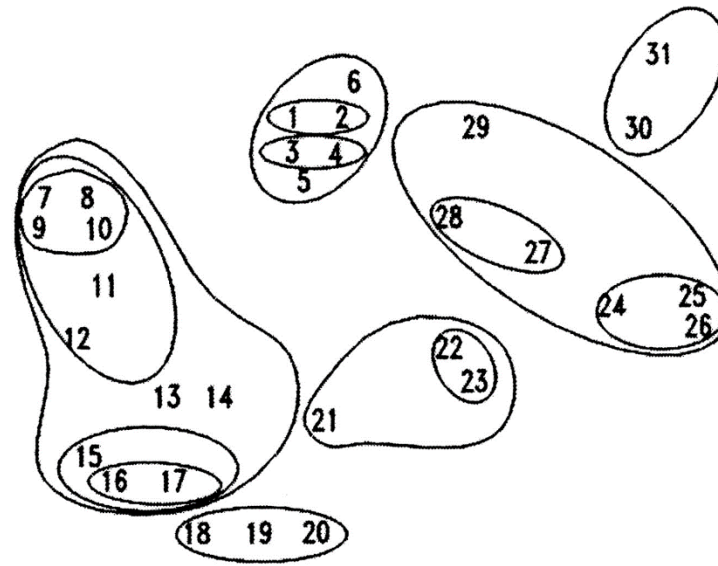
## ***“Healthy and Pretty with a Balanced Diet”***



From: Formative Research to Develop a Nutrition Education Intervention to Improve Dietary Iron Intake among Women and Adolescent Girls through Community Kitchens in Lima, Peru

J Nutr. 2003;133(11):3987S-3991S. doi:10.1093/jn/133.11.3987S

J Nutr | © 2003 The American Society for Nutritional Sciences



1 Meat	8 Papaya	14 Sweet Pot	20 Peas	26 Tea
2 Chicken	9 Mandarin	15 Lettuce	21 Wheat	27 Milk
3 Lung	10 Orange	16 Spinach	22 Rice	28 Egg
4 Liver	11 Lemon	17 Cabbage	23 Pasta	29 Oil
5 Blood	12 Tomato	18 Lentils	24 Infusions	30 Sweets
6 Fish	13 Potato	19 Beans	25 Coffee	31 Chocolate
7 Mango				

From: Formative Research to Develop a Nutrition Education Intervention to Improve Dietary Iron Intake among Women and Adolescent Girls through Community Kitchens in Lima, Peru

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# Reasons for grouping foods

Reason	Examples
1) Different preparations of meals	Fish, rice and salad Egg and oil
2) Types of foods	Meats, fish, liver, egg, blood Fruits, vegetables
3) Nutritive value	Nutritive foods: beans, meats, milk Nonnutritive foods: sweets, rice
4) Types of meals	Breakfast Lunch
5) Their likes/dislikes (adolescent girls only)	Chocolates, sweets (likes) Liver, beans, blood sausage (dislikes)

# Summary findings

- A close association was seen between nutrition and health, and anemia is situated within this context.
- “Alimentarse bien” is equated with, or defines, health, represents the ingestion of foods to nourish the body well and prevent illness, and is a treatment for illness. Within this context, anemia is considered to be the result of a poor diet and “alimentarse bien” is necessary to prevent and recover from anemia.
- Although availability and cost of these foods may be limiting factors, the CK leaders and participants were sufficiently motivated to search for low cost strategies to overcome these limitations to the extent possible with their resources.
- For the intervention, several recipes were developed through a participatory process with the women and were a great success and accepted well.

# The Focused Ethnographic Study (FES)

- An efficient tailored, focused method used to gather information to help guide decisions and actions
- Mixed methods, including:
  - open-ended questions
  - formal ethnographic cognitive mapping techniques
  - survey questions
  - visual and even video presentations
  - participatory mapping,
  - Methods drawn from dietary intake studies, infectious disease monitoring, and others
- More rapid than traditional ethnographic research as questions/issues of exploration are usually fixed in advance

# Example of a focused ethnographic study

Questions	Methods
<ol style="list-style-type: none"><li data-bbox="91 511 1327 625">1. 'Is there a place (niche) in the present diet of IYC in urban Ghana that a new product could fill?'</li><li data-bbox="91 639 1327 875">2. 'Would a new, cereal-based product be a substitution for something that is currently being given or would it be an addition or both?' (<i>concerns: might it displace breastmilk? Family foods? Other commercial foods?</i>)</li></ol>	<p data-bbox="1396 511 2257 646"><b><i>What methods would you use to explore these questions?</i></b></p> <p data-bbox="1396 739 2295 803"><b><i>How would you use the methods?</i></b></p>

Pelto GH, Armar-Klemesu M. Balancing nurturance, cost and time: complementary feeding in Accra, Ghana. *Maternal & child nutrition*. 2011 Oct 1;7(s3):66-81.

*Maternal and Child Nutrition* (2013), 9 (Suppl. 1), pp. 35–46



# Example of a focused ethnographic study

Questions	Methods
<ol style="list-style-type: none"><li>1. 'Is there a place (niche) in the present diet of IYC in urban Ghana that a new product could fill?'</li><li>2. 'Would a new, cereal-based product be a substitution for something that is currently being given or would it be an addition or both?' (concerns: might it displace breastmilk? Family foods? Other commercial foods?)</li></ol>	<ul style="list-style-type: none"><li>• Segmented population by child age and SES</li><li>• Individual interviews, 2x per hh</li><li>• Cognitive mapping techniques, as well as standard demographic and nutrition methods</li><li>• Free listing of foods given to infants</li></ul>

Pelto GH, Armar-Klemesu M. Balancing nurturance, cost and time: complementary feeding in Accra, Ghana. *Maternal & child nutrition*. 2011 Oct 1;7(s3):66-81.

*Maternal and Child Nutrition* (2013), 9 (Suppl. 1), pp. 35–46

**Table 1.** Socio-demographic characteristics of respondents

Characteristics	Number of respondents
Age of index child (months)	
6–8	7
9–12	11
13–18	7
19–24	5
Age of respondents (years)	
<20	1
20–29	10
30–39	19
Total household size	
2	2
3–4	9
5–6	13
7–8	3
>8	3
Number of children of respondent	
1	5
2–3	12
4–5	11
6	2
Number of children under six in household	
1	8
2	17
3	4
4	1
Living Standard Measures (LSM) status	
3–4	14
5–7	7
8–10	9

**Table 2.** Daily food expenditures

LSM (high to low)	Household food expenditures mean and (SD)	Expenditures for IYC mean and (SD)
8–10	12.9 (7.0)	2.1 (1.2)
5–7	9.3 (5.8)	2.4 (1.3)
3–4	9.2 (2.9)	1.6 (0.6)

LSM, living standards measures; SD, standard deviation; IYC, infants and young children.

**Table 7.** Ratings of non-cereal foods

Food	Healthiness	Acceptance	Convenience	Cost	Ease of acquisition
(Full sample $n = 30$ )					
Mpotompoto	4.5	4.1	2.6	3.0	3.0
Mashed yam	2.4	3.0	2.8	3.6	3.1
Tuo zaafi	4.2	4.0	1.5	2.4	2.7
Banku/okra	4.2	4.1	1.4	2.1	2.5
Boiled yam/stew	4.4	3.6	1.8	2.3	2.6
Cassava-plantain fufu	3.3	2.9	1.1	1.9	2.5
Boiled rice/stew	3.4	3.9	2.1	2.1	3.1
(Subsample $n = 12$ )					
Rice balls	1.6	2.4	3.0	4.1	4.0
Rice balls/peanut soup	4.1	3.3	1.3	1.7	2.3
Rice and beans/fish	3.1	2.5	1.8	2.4	2.3
Boiled plantain/stew	4.6	3.8	2.3	2.2	1.8
Fried plantain/stew	4.8	4.2	1.7	2.5	2.4
Jollof rice	3.8	4.0	2.0	1.8	2.3

**Table 3.** IYC food intake records for the day prior to the interview (youngest to oldest)

Age (months)	BF	Feed 1	Feed 2	Feed 3	Feed 4
6	Yes	Hausa <i>koko</i>	Hausa <i>koko</i>		
6	Yes	<i>Koko</i>			
7	Yes	Banku + stew			
7	Yes	<i>Koko</i>	Rice and egg stew	Banku + egg stew	Cerelac®
7	Yes	Mashed kenkey	Mpotompoto		
7	Yes	Cerelac®	Mpotompoto		
7	Yes	<i>Koko</i> + soya	Banku + soya + okro stew	<i>Koko</i> + soya	
9	No	Hausa <i>koko</i>	Mpotompoto	Mashed yam + garden egg stew	
9	Yes	<i>Koko</i>	Cerelac	<i>Koko</i>	
9	Yes	<i>Koko</i>	<i>Koko</i>		
9	Yes	Cerelac®	Cerelac®	Cerelac®	
9	Yes	Cerelac®			
9	No	Tom brown	Rice + stew	Mashed kenkey + milk	Hausa <i>koko</i> + milk
10	Yes	Mashed kenkey			
10	Yes	Weanimix	Mpotompoto	Cerelac®	Banku + stew
10	Yes	<i>Koko</i>	Tuo zaafi + ayoyo soup	<i>Koko</i>	
11	Yes	Cerelac®	Rice + stew	Banku + okro soup	Cerelac®
12	Yes	Tea + bread	Instant wheat cereal	Cerelac®	Fried spiced plantain
13	Yes	Cerelac®	Rice and stew	Banku + okro soup	Cerelac®
15	Yes	Hausa <i>koko</i>	Cerelac®	Mashed kenkey	Mpotompoto
15	Yes	Milo + bread	Jollof rice	Indomie instant noodles	
16	Yes	Milo + bread	TZ + ayoyo	Mashed Kenkey	
16	Yes	Tea + bread + fried egg	Tea + bread + egg	Tea + bread + egg	Banku + palm soup
18	Yes	Rice porridge + bread	Rice and stew	Fufu + palm nut soup	
18	No	Milo	Cerelac®	Rice + stew	Cerelac®
18	Yes	Milo + fried egg + sausage	Cerelac®	Banku + okro soup	Jollof rice + vegetables
20	No	Milo	Weanimix + nido	Rice + palava sauce	Nutrolac
20	No	Tea	Rice + stew	Banku + okro soup	Kenkey + groundnut soup
21	No	Milo + bread	Banku + stew	Akple (banku) + okro	
22	No	Cold Milo	Banku + okro soup	Fried yam + sausage	Rice + stew + sausage
24	No	Bread	Hausa <i>koko</i>	Rice + stew	Jollof rice

IYC, infants and young children.

# Example of a focused ethnographic study

## Findings

- Women did not see cereals as replacement for breastmilk
- Value of extended breastfeeding appreciated
- Women highly valued growth and health of children,
- Near universal agreement that commercial foods (Cerelac) more healthy than local foods
- Cognitive mapping: Decisions of what to buy a balance of dimensions of cost, time, and nurturance



<https://blogs.unicef.org/blog/ghana-improving-nutrition-in-the-last-two-decades/>

***“The likelihood that a non-instant, fortified cereal, positioned as an IYC food would be commercially successful and ultimately self-sustaining was low.”***

Maternal and Child Nutrition (2013), 9 (Suppl. 1), pp. 35–46

# Conclusions

- Most intervention studies benefit from a formative research stage
- Building in time to do so is usually well worth it.
- Can often lead to increased uptake/acceptability of interventions or even the decision to try something completely different!
- The expertise needed to conduct formative research is different than normal survey researcher expertise.
- May require learning/teaching techniques that are very different than what people are used to.