

Lecture 9: Conceptual Learning

Defining the Problem Statement

Selected frames:

- 1) The process of community change is being determined by one sector of society (city government and developers).
- 2) Framingham is undergoing change in its social and physical structure and it is unclear what the future will be.
- 3) Commercial redevelopment does not include pre-existing Brazilian businesses.
- 4) Disagreement on how to manage growth/development.

I would like to discuss these frames. The advantages and disadvantages may have to do with the kind of understanding the frame enables, or the effectiveness each frame may give for tackling a problem.

I don't think that not being involved in city planning necessarily means that I am in conflict with the plans. I think you can make a similar argument for #2 – simply being unclear about the future doesn't mean it is a problem.

The reason I wanted to refer to #4 – in that one, the problem is more clear, the fact that there is disagreement.

Disagreement isn't necessarily a bad thing, it's democratic.

I think you don't know what the disagreement is about. It isn't specified. There is always disagreement around growth and development. It may be a positive thing in some cases, enabling improvement.

Some of these statements may be the starting point for a new formulation, or we may just throw out all of them. That is the kind of evaluation we will do this morning.

I think #3 is a good starting point – start with that and try to integrate some aspects of the others.

Maybe a better way to frame is that commercial redevelopment excludes pre-existing Brazilian businesses. It's not that they don't have a place at the table, but that the development ends up replacing the Brazilian bakeries with Starbucks.

Do we mean the developer has excluded them, or the city has excluded them?

Does it make a difference? I would say it's a joint decision.

The city ultimately has to approve it.

Just exclusion or inclusion may not be a problem, but it's how I feel about it.

Yesterday we had this discussion – at which level should we formulate the problem, and how widely? If I go deeper, and try to look for the final causes of everything, I

may reach conclusions that are not so useful for the problem. We need to select a level where we have enough knowledge about the problem, and then can act in a timely way. We always work with unsatisfactory understanding of the problem.

The statements of assumptions are normally about these underlying levels. We formulate the problem at one level where we can work with it.

If you need to take action at a fairly surface level, but you want to make sure that action relates to a deeper level, does it make sense to start with a few clear problems and then work down to the root level, and then back up?

I can imagine this being possible, but I am not sure it is the best approach. In general, you will need to combine the action with the improving of your understanding. What method you actually use depends on the knowledge you have, the conditions, alliances with other actors. I don't know one method that should be the best one. We need to design our own cognitive strategy in each case.

And after some time we can come back and reframe the problem.

Yes, and we can reframe not just the problem, but our cognitive strategy towards the problem. We always have two levels, the action level and the cognitive level. We need to combine action and learning through the process of action. And we need to combine knowledge from our own experience with knowledge from other people's experience.

We should return to discussing statement #3.

If it's only one building that's being redeveloped, it seems unlikely that that is the actual problem. Maybe the Brazilian community feels it has an ownership of Framingham, and that it's losing that ownership.

I try to state the problem so that I am also working with the long-term problem.

I don't know if that captures the economic interests of the businesses. They are concerned because they might lose their livelihood.

Yesterday we analyzed the limitations of our frame, and challenged some of its assumptions. The assumption at the time was that organizing communities leads to results.

I feel like we should integrate aspects of #1. Commercial development will harm Brazilian business because plans were conceived without integrating Brazilian feedback.

Alternatively, because plans were conceived without measures that mitigate potential negative impact.

Could we say "presently planned development"? Other plans might not harm.

The present commercial redevelopment will harm Brazilian businesses, because plans were conceived without measures that mitigate potential negative impact.

I still think it's a perception issue.

I don't think we want the passive voice. Developers and city planners conceived a plan...

I would suggest Brazilian community, not just the businesses. If you consider the impact this could have on housing in the area, rents could increase, property owners could be displaced.

What is our intervention target? That makes it a much bigger problem.

I don't think we should be thinking about intervention. We're thinking about what the problem is.

As for the passive voice, there are two ways to look at it. Saying that developers conceived a plan focuses on the developers, whereas saying that a plan was conceived focuses on the plan. I prefer the second viewpoint, since the plan is the actor, and how it was conceived is antecedent.

I think the passive voice acknowledges that the process is still going on.

That is not the only way to do it. The passive voice serves to hide the actor.

I agree with that, but we have to be careful when we use the active voice construction. It's like a loaded gun, giving blame to the developers and city planners.

And it makes us think of the problem in terms of "those guys".

This is our final provisional formulation of the problem. "The commercial redevelopment plan lacks measures that mitigate potential negative impact on Brazilian businesses, and community in general." It has several problems – for example, a potential negative impact, but we don't know what the negative impact actually is.

This was challenging but very useful.

I would agree. In design, people spend five minutes on problem statements, and then three months working on the solutions. Given that it takes so long to get to a conditional problem statement, how do you do that?

Sometimes people don't even have a problem statement. They just set off solving the problem, and then you have people solving slightly different problems.

We often look at the problem and expect the solution to come from the problem, instead of looking elsewhere.

This makes other people's involvement more symbolic, because we already have a solution in mind.

Powerpoint Presentation – Conceptual Innovation

The connections we have in our brains are related to the concepts we use. When I change my concepts, I create a new area of relations in my brain.

What is a concept? I am using the definition of Dewey and Schon. Concepts are cognitive tools for coping with the world. Each time we create a concept, we create a tool that allows us to relate to a lot of different situations.

Would it be safe to say a concept is a way of managing information?

Yes, but not information itself, so much as the way of dealing with information.

Concepts are abstractions of situations, the patterns that emerge when I have seen many situations. If I have no concepts, I cannot perceive reality yet. If I have concepts, I can think much deeper about reality. If I have no concepts, the only reference I have for coping with a situation is to connect it with my experience in some way.

For example, walking in Peru is dangerous. People who have lived there for many years can see immediately when a thief is on the street, but tourists don't perceive it. For the tourist, it is a messy situation. They are distracted by seeing the buildings, etc.

So the concept in that case, that the Peruvians are aware of and the foreigners are not, what would you say that concept is?

If we have concepts about a situation, we are better able to monitor parts of the situation that are meaningful. We receive lots of signals, but most are just noise. I imagine that I am walking through the capital of Turkey. Everything that people are talking about would just be noise for me.

An automobile is a carriage that can move by itself. We always try to understand new situations through extensions of old ones.

How do we cope with this problem of new situations and old concepts? We have two kinds of strategies. We can look for concepts from the older field that will be useful in the newer field. In doing this, I need to make small changes in the concepts. For example, sociology took a lot of concepts from other fields. During the 20th century, most scientific concepts came from physics.

The other way is to extend the concepts we are using. We generalize or redefine the concept in some way so we can use it in the new situation.

When a new concept enters our minds, it begins to disturb everything. If I let the concept work in freely, it may produce reframing in large areas of my thinking. A new concept can reframe multiple situations. It is a powerful cognitive tool, the creation of new concepts.

For example, multiplying seventeen by twenty-three in Roman numerals. How do we do this? It is very difficult. Roman numerals do not have structure, so it is difficult to do arithmetic with them. When we are able to innovate with a concept, we trigger a lot of technical innovations.

This is Robert Chambers. His effort now is helping people to make paradigm shifts, when we are able to change a group of concepts. Reframing is where we rethink one situation. Conceptual innovation allows us to work with a lot of situations. Paradigm shifts are when I can change a lot of concepts together. It has the biggest impact. He proposed these shifts: from things to people, etc.

The shift from physics to biology – I see that in these paradigm shifts.

In this course, we have been working on concepts. The goal has to bring new concepts to your mind – reflective practice, reframing. The treatment we gave to assumptions and the mental model was a bit new. Theories in action (espoused theories and theories in use) were new, reflection was not completely new, and today we are talking about conceptual learning, which itself is a concept.

Participant Exercise

We would like to make a brief exercise of modeling concepts. You will select the concept you would prefer to create a model for: reflective practice, reframing, assumptions, mental model, theories of action, conceptual learning, reflection.

Reframing was chosen by vote.

What ideas come to mind when you think about reframing or how you use reframing? What ideas come up in your mind that you think are meaningful? Also, for what kinds of uses is this concept useful? Not a long list, but the main uses.

Let's begin with the main features.

- *It forces you to analyze the problem and be more specific.*
- *New parameters or limits.*
- *Identifying different levels of analysis.*
- *Exploring alternative dimensions.*
- *An individual and/or collaborative process.*
- *Make tacit assumptions explicit.*
- *Disturbing.*
- *A critical way to redo the process without changing the concept.*
- *Removing all pre-conceived thoughts and barriers.*
- *Releasing personal perspective to make way for a new perspective of the problem.*
- *To facilitate and listen to the strengths and contributions of a community.*

Concepts are not simple; they are a synthesis of many features integrated into one idea. They can work with many different situations – that's why they are so powerful.

If you wanted to know the role of this concept in your thinking, an additional question to ask is how has the use of this concept impacted your thinking?

What surprised you about the roles of concepts in our thinking? We would like to discuss this. Then we will have a few minutes of discussing what you learned from the exercise of modeling concepts.

I was thinking about how that fits in with what I've already established in my mind about how we take in new information. I feel like I've been thinking about the same thing, with a different way. The idea of a concept didn't disturb anything I had already established, but it made more explicit things I had thought about earlier.

The idea of new concepts and new knowledge – I was surprised we didn't talk about that more.

I'm also curious to know more about relationships between concepts.

I really appreciate when you use metaphors, because when you spoke of the lantern, then I was able to perceive and visualize how concepts work.

I think the concept can get trapped in your head, and prevents you from reframing your thinking.

In some cases, yes, it's impossible to reframe a situation without changing some of your concepts.

When you were speaking about having the experience of a situation without having the concept, I was surprised about that. Is that actually possible?

What about artists – painters and musicians? They can move by feelings, without thinking about the concepts at the same time. What they do is beyond what they are thinking about?

In general, people who are studying cognitive processes and tacit knowledge think that we can process elements without conceptualizing them. When I am able to go from the experience itself to an abstraction of the experience, that is a cognitive process.

Generally, most of us are in our minds most of the time. But sometimes you can reach a meditative state, a sort of childlike consciousness.

Analogy is a way of organizing experience through something else. When I face an experience for the first time, I can use analogies, or connections with previous experiences.

In my development of a new concept, when I came to work at CARE, I had no experience with international development. After starting to work at CARE and listening to theories and practices, that concept has completely changed, and what is required in order to help. It's not that one child for one day, but the whole society and government. Now when I see those ads, they irritate me. It's a complete change.

I was wondering about reflection, how often we should change our concepts. There's a certain permanence that needs to be in those concepts for them to work, but a certain questioning that is needed to grow.

I think that what is required is to develop sensitivity for concepts. Each time we talk to people, we begin to feel what kind of conceptualization this person is using. We don't like to change concepts – it's too difficult and disturbing. What we should do is

not block the disturbances that enter our mind, and support these ideas that enter our minds.

The ideas must survive for themselves; I will not fight for them. The separation between the ideas and myself is important in being able not to suffer when the idea dies. This makes it easier to innovate conceptually.

The main difficulty is when we have invested our lives in some ideas and concepts. When the ideas or concepts are not very good, we feel like we have lost time, and are ashamed. But these moments can be very transformative. In a sense, this is a matter of dealing with emotions, because our minds are capable of reorganizing.

The question about how often bothers me. I think it's more an issue of how to recognize that a concept should be changed.

If we recognize that concepts are these fluid things that we should always be evaluating, it makes it hard to place credibility in any particular concept we may be working with. It stymies my ability to do things, because I am always questioning whether I should be acting in a particular way.

For me, the reflection stops me from moving forward, because I feel like you don't have solid enough understanding.

The reflection end is paralyzing. I feel like you have to make a decision and go with it, and continually do corrections. You have to do the experiment to get the feedback.

It's taking a risk.

Not doing anything is taking a risk too.

We would like to detect failures as soon as possible. Is this working, or is it not working? When we are acting, your mind is not always focused on the action. In these times, if you are aware of the incompleteness of your knowledge, you are using these times to reflect.

I don't think it's a matter of questioning your concepts as you're acting. I would say to be aware of the way these concepts are affecting your actions. I think that awareness is enough to open up reflection later.

In some situations, in the course of an action, you may feel it is necessary to change everything. If you are aware of the areas of risk in your original approach, you have some clues about where you need to improve.