

**ORGANIZATIONS AND THEIR COMPONENT INDIVIDUALS VENTURING  
OUTSIDE EXPERTISE**

**A Project Report**

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**by**

**Candice M. Heidebrecht**

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The Undersigned Project Report Committee Approves the Report Titled  
ORGANIZATIONS AND THEIR COMPONENT INDIVIDUALS VENTURING  
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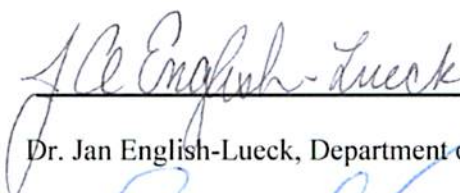
Candice M. Heidebrecht

APPROVED FOR THE DEPARTMENT OF ANTHROPOLOGY

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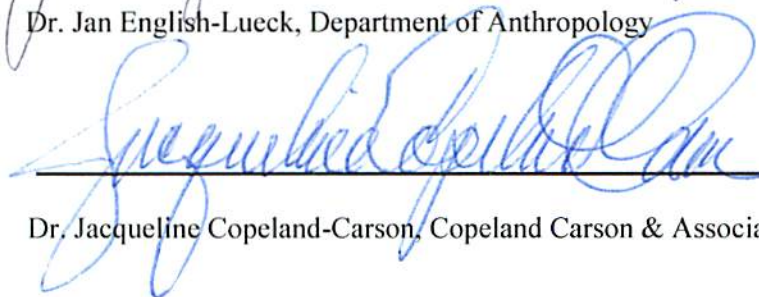
Dr. Chuck Darrah, Department of Anthropology

Date

 May 29, 2010

Dr. Jan English-Lueck, Department of Anthropology

Date

 5.26.10

Dr. Jacqueline Copeland-Carson, Copeland Carson & Associates

Date

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## ABSTRACT

### ORGANIZATIONS AND THEIR COMPONENT INDIVIDUALS VENTURING OUTSIDE EXPERTISE

by Candice M. Heidebrecht

A California non-profit research organization that works almost exclusively with large organizations wanted to make its methods accessible to the general public. The organization, referred to hereafter as Futures Research Organization (FRO), develops forecasts based on widespread systems and trend analyses that emphasize how emerging phenomena will shape the future. They planned to create a curriculum that would teach middle school students how to forecast their own futures, using FRO methodology.

However, the teaching materials produced did not compose a full curriculum and did not they teach students how to forecast. The project was overridden by a number of limitations and barriers caused by FRO's organizational culture. I was engaged as an intern to aid in generating the FRO curriculum and became primarily responsible for translating the various team ideas into an accessible language for the intended audience. This report is a culmination of what I observed during the production process and what students who participated in the lessons had to say about it. My full participation in the project was limited to the production process and I had limited access to the team members afterward, which constrains a holistic analysis. The report focuses on the project's development between conception and execution, evaluates the project materials, using them to provide insight to the production process and make recommendations for anyone attempting this process.

## **Statement of Problem**

FRO's "Legacy Fund" hopes to "serve as a catalyst for building a broad futures literacy in the community" (FRO, 2009a). The first Legacy project, the "Student Futures Project" (SFP), was an effort to meet that goal by designing a pilot curriculum that would "empower the students to create personal forecasts that reflect how food systems impact their current and future health" (FRO, 2008d). The collaborative effort produced a workbook containing a series of lessons about health and the future, which were compiled into a workbook. Unfortunately, the lessons did not follow a logical progression of concept built on top of concept and did not provide a strong framework for students to learn how to forecast, which was a major project goal. This report examines the process of generating a text and the organizational structures and mechanisms that influenced the outcome of the project. The FRO team had little collective experience in curriculum design, but were experts in the topics of health and the future. The lessons are good starting points, and were developed with the intent to meet constructive goals, but would need to be reworked in order to comprise a unit of curriculum. They have extensive experience working with corporations and large non-governmental organizations, have published literature on youth cultures, and are adept at enabling organizations to access forecasts. However, they have minimal experience working in low income inner city communities, or generating curricula to teach in a school setting.

As the team was collectively inexperienced in curriculum design, the project proposal anticipated that the team would have relied upon existing organizational products and methods to meet the project goals. However, the existing materials were



inadequate to meet the project goals, and were inappropriate for the pilot audience. The team had no clear leadership and individuals were not assigned roles or tasks. This lack of leadership proved to be deleterious to the project because the team had no clear path to follow during the production process. Teaching methods were mentioned during the brainstorming process, but no particular methodology or framework was ever decided upon or implemented. The project's goals, design, and assumptions were examined by the team during the beginning of the project, but were abandoned entirely by the fourth week of the production process.

This report will review the project process and student evaluation responses of the project and make informed recommendations for improving the teaching materials. The project was influenced by a number of factors, including organizational culture, structures, and processes that affected the project's process and thereby affected its results. These factors include: organizational language, hegemony, bureaucratic rationality, resistance to question assumptions, and a dedication to deliverables that may sometimes exceed capability. The names of the project team members, the project titles, and the organizations named in this report are pseudonyms.

### **FRO Background**

FRO was established in the late 1960s by a group of researchers from a national research organization (FRO, 2009b). Their grant-funded start-up aimed to take academic research methodologies into the private and public sectors. Today, FRO's clients include Fortune 500 organizations and other large corporations. FRO generates widespread

forecasts and produces more specialized forecasts in the areas of health and technology. Their forecasts are written in a unique organizational language that uses play-on-words and inimitable phrases and often with a college-level vocabulary. Their typical clients are highly educated, middle and upper class people that can keep up with the language, albeit with necessary explanations from FRO. Their researchers use complex trend analysis to generate forecasts. The research identifies currently influential factors and relationships, and then forecasts how the future will evolve as a result.

An FRO forecast paints the future using stories of the various contributing factors. The forecast stories they generate contain actors, as if in a play, whose actions the audience can identify with or denigrate (Brooks and Bowker, 2002). Doing so makes the future more accessible. For example, in a brochure on the future of the global food system, FRO outlines the current state of the system and the forces acting on it and hints at how the food system will change due to innovators that are creating new trends (FRO, 2009):

Declining biodiversity, global climate change, infectious disease, and global food sourcing (with attendant food safety concerns) are all intervening in food webs in different ways at different levels. Current worldwide migration trends will create new burdens as rural to urban movement continues, and population growth soars over the next several decades. The use of arable land for food production will compete with demand for fuel crops, while our oceans face degradation and declines in consumable marine life.

In the face of these challenges, innovations are emerging...new and old coalitions seek to shorten and safeguard supply change...institutional and citizen science already offer new insights and strategies for managing organisms, land, and ecosystems (FRO 2009).

FRO often produces forecast maps for their clients to summarize their findings.

These maps use graphical and textual representation of the connections between what they have identified as emerging trends into an overall picture of the future. For example, one map illustrates the factors that FRO has identified as being indicators of the future of sustainability. Some of these stated factors include: “Sustainable City States: Cities sign Kyoto-type agreements;” “Rogue Eco-States: Some nation states benefit from the status quo and resist sustainable development;” “Digital natives, civic spaces: Youth media literacy and practices - tagging, commenting, podcasting - transforms relationships to physical spaces and creates new sense of civic responsibility” (FRO, 2008a). The map delineates factors into subcategories, such as “Nature” and “Built Environments,” then presents a summary of how the factors will influence the future of sustainability:

**Digital natives define the next generation of civic engagement:**

As youth media literacy emerges, watch for young people to apply media skills to social, political and environmental issues. They will podcast, blog, tag, rate and review companies, share information and connect online to collaborate. Their evolving literacy could catalyze new forms of civic action as networked publics, commons-based property regimes and emergent self-organization bypass traditional government with ad-hoc interventions and distributed solutions (FRO 2008a).

## **Project Background**

FRO intended to create a curriculum that would teach middle school students how to forecast their own futures using the topic of health to do so; the project was proposed and approved as the Student Futures Project (SFP). FRO had previously held a Youth Perspectives Workshop for a select group of high school students, which successfully engaged students to create a digital story of one personal moment ten years in the future.

The SFP proposal anticipated that the team would use the teaching materials from that workshop to develop a curriculum for a pilot audience of students from a local middle school. Each FRO team member agreed to participate in this pilot program despite their lack of experience in education or curriculum building; the project was thus exploratory for both FRO and for the individual team members. Most team members were experts in FRO's forecasts and most were on the Health Forecast team (a section of FRO that focuses on the future of health and the health industry).

### **FRO's Stated Goals for the Project**

According to the project proposal, the major stated goals of the Student Futures Project were:

- Enhance the education of under-served youth in an impoverished community.
- Empower students to become agents of their own futures by teaching them how food systems affect their (current and future) health.
- Help students to imagine their futures 10 years from now and to think systematically about their futures.

FRO wants to teach the general public to forecast because they believe that forecasting is empowering. FRO designed the Student Futures Project (SFP) to help meet that goal and to expand their community outreach. SFP's intended primary function was to teach young people how to forecast their own futures in order to help them understand how their choices affect the health of themselves and their community. The project

proposal states that the pilot curriculum should be implemented in an underserved population. FRO targeted a nearby low-income per-capita city as its recipient population for the SFP due to its proximity and the fact that it meets their criteria for an unempowered, impoverished population. FRO headquarters are on the West Coast in one of the wealthiest cities per capita in the United States (US Census Bureau (1), 2008). Their recipient population's city has a low per capita income, at just over \$17,000 (US Census Bureau (2), 2008). FRO wanted to collaborate with an existing educational program serving a nearby low-income population and teach the organization how to forecast through co-teaching the middle school students. Garden Grows (GG) is a local non-profit organization that teaches students about the food system while growing food in an organic garden. The GG class is held at progressive elementary and middle school that aims to equip each student with the necessary skills, attitude, and self-esteem that will enable them to attend college and improve their community.

While working in this garden, GG teaches the students about the existing food system, its impacts on the environment and their own health, and alternative food systems that could improve the students' and the environment's health. Garden Grows' curriculum is centered on the links between food, health, and the environment. In the project proposal, FRO identifies GG and the elementary school as community innovators, and aims to help the two organizations improve the community through this project by teaching forecasting methods to the organizations and their students (FRO 2008d).

According to the GG teacher Judy, their lessons teach students how organically grown food differs from commercially grown food; i.e. that organically grown food is

healthier for the students and is less harmful to the environment than commercially grown food. However, both personal and environmental health are long term processes that take years to manifest. FRO's forecasting pilot curriculum would, it hoped, make GG's lessons more realistic to the students. GG knows how to teach the current systems, but is not expert in teaching how those systems could or would look in the future. GG believed that FRO would be able to do so and teach students to forecast their own health futures.

Organizational differences between FRO and GG created both advantages and disadvantages. On the organizational level, FRO operates like a non-governmental organization: Teams are assigned to projects and are expected to produce deliverables such as a forecast map or analysis, and team members are expected to cater to their members or clients. Garden Grows is a more traditionally structured non-profit organization, focused on community projects and community involvement. They are reliant on their employees' relationships with their target populations and the funders that support them.

FRO was able to create a deliverable (the workbook), which was intended to be a free, valuable supplement to GG's curriculum. GG gave FRO access to an appropriate student base and teaching support, which FRO needed. However, GG did not drive the SFP curriculum building because FRO treated them like a client rather than a collaborator, so a major advantage of this partnership was negated by the disadvantage stemming from FRO's organizational culture. The GG team members that were part of this collaborative effort were Judy, the teacher, who has been working with the middle

school students, and the executive director of GG, Harry.

### **Production and Reporting Methods**

This report reviews and makes recommendations based on the evolving workbook materials, evaluation data provided by the students during the project's implementation, my notes as a participant observer during team meetings, and personal correspondence with team members. This report uses reference to records of each iteration of the teaching materials, which includes notes of changes requested by each team member and why. The project's proposal, initial outline, Young Perspectives Workbook (the existing FRO material that was to be adapted), and the FRO website were used to lay the historical foundation. Methods employed to create the workbook itself include translation of the team ideas, translation of organizational language, and adaptation of portions of the YPW. The evaluation data provided by the student responses to the workbook questions was analyzed using frequency tables and charts. Student responses were broadly categorized and tallied accordingly (see Analysis Methods for more detail).

The methods employed to generate the project materials were not systematic. I had previously developed one other curriculum, but had no formal teaching experience. Lynn, an FRO employee, had developed several curricula in the past and had many years of teaching experience. The other team members were to contribute their expertise about forecasting and the field of health, but had no curriculum or teaching experience. The team was directed to collaboratively design a pilot curriculum, but with an unbalanced and minimal base of experience, the design process was on-the-fly. The team met in the

FRO office for one hour each week for ten weeks, during which ideas would be brainstormed, and existing lessons critiqued and edited. The first two meetings were structured; project goals and objectives were outlined and the team was encouraged to create lessons to meet them. However, by the fourth team meeting, the goals and objectives were no longer referred to and I felt a palpable pressure to finish the project rather than reviewing the goals, objectives, or embedded assumptions in each lesson.

### **My Role and Perspective Limitations**

I was not privy to the entire project process, or its implementation in the classroom. As a member of the FRO team, my experiences and personal insights into the process are relevant and valid to this discussion. However, I was never truly a member of the FRO organization because the internship was limited to ten hours per week, nine of which were spent outside of the FRO office. The other FRO team members did not regard me as an insider, but over the course of the production process, they came to rely on me to translate their ideas into the workbook. Having been exposed to FRO's organizational culture for only a brief period, I am not an expert in that regard and there may be factors that, if I were aware of them, would influence the recommendations I have made in this report.

My role evolved over the course of the project, adapting to team needs and project limitations. My expertise was not defined for the team and they were unprepared to use me because they were unsure what value I could lend. I was brought on to the team primarily because I have experience building a curriculum and I am pursuing an MA in



applied anthropology.

I was initially assigned to assist Lynn as much as possible within my time constraints. She explained that she would be writing most of the language for the curriculum. My role was to be primarily a support person, but I was welcome to contribute to the content. I was initially assigned administrative tasks, such as note-taking at the meetings and reminding team members of upcoming meetings. FRO was not prepared to engage my full capacity, as there was no clear definition for what the intern would do beyond “support” the team.

The other FRO team members had established working relationships and were essentially equals within the organization. As the only non-employee on the FRO team, I was an outsider that had not been enculturated into the organizational culture, and although I was allowed to contribute to the lessons, I was not considered to be a curriculum expert. Therefore, my role within the team was not readily apparent to anyone, including me. I was not engaged outside this administrative role until I had produced language in the workbook that exceeded expectations.

I ultimately made the choice to go beyond the stated scope of the internship because I felt that I could be an asset, and set out to prove it. I asserted myself as the team translator and produced most of the written language in the workbook. Despite the fact that doing so was outside of the scope of what I was contracted to do, I felt that creating the publication would be much more beneficial than merely taking notes. It also gave me a sense of satisfaction, that I was a true asset to the team. Once I had done so, the individual team members were much more interested in my input. For example, Penelope

asked me to collaborate with just her on editing the language and syntax of a specific lesson, rather than re-writing the language and syntax without my input.

### **Project Limitations**

FRO's experience with large organizations and well-educated adults makes them exceptionally good at speaking to those audiences. However, it constrains their potential audiences to those that can understand the organizational language. Unfortunately, the organizational language is not accessible to people outside of their familiar socioeconomic classes. They are capable of speaking to these unfamiliar audiences, but they are not adept at doing so. The existing materials from the YPW that the project expected to be able to adapt were written in their organizational language.

The project proposal states that the SFP will teach students how to forecast “based on their insights about health” (FRO 2008d:1). The lessons were intended to be adapted from the Young Perspectives Workbook, which FRO previously employed in a workshop for high school students. The Young Perspectives Workbook (YPW) had six stories that illustrated different forecasts, then asked the students to create their own personal forecast in the form of a digital story of one moment ten years into the future. The six lessons focus on a different aspect of society that could influence the future, and are entitled: “Grassroots Economy,” “Smart Networking,” “Deep Diversity,” “Volatile Communities,” “Sick Herd,” and “Animated Worlds” (FRO 2008e). FRO anticipated this workshop would make the process of forecasting accessible to high school students, and according to the project team, they were successful in doing so. However, for the SFP's intended

audience, this workbook would not prompt student insights on health, nor would it make any sense to the students because it is written in the catchy and abstract language that is often used at FRO. Ultimately, as the GG teacher Judy pointed out, the teaching staff would need to spend as much time explaining what these phrases meant as they would to teach the actual lesson.

The six YPW lessons are based on previous FRO forecasts, but would not teach students about their own personal health futures, nor how to create insights about health. One example from the YPW is “Volatile Communities,” which states that many outside factors will impact communities and brittle communities will break apart, while resilient communities will work together to solve their own problems. Therefore, a student must imagine their future in the context of either a brittle or resilient community, and determine how this might affect their choices today. Since “brittle community” and “resilient community” are not in middle school students’ existing lexicon, the lesson would need to include a thorough review of these terms, and students would need to label their existing communities. Finally, there was no actual curriculum in the YPW that could be applied to GG students. GG students are focusing on food systems, whereas the YPW does not pertain to food systems.

The FRO team (Lynn, Victor, Rory, Penelope, Holly and myself) met with Judy and Harry from Garden Grows and reviewed the YPW materials. Holly especially was concerned that the language was too abstract and would be difficult to concretize for the pilot audience. The team started from square one with an eight week deadline, only a few hours per week to devote to the project, and no clear path to a successful completion. The

team generated a workbook that contains ten weekly lessons, a short-entry journal, five homework assignments, and a built-in evaluation of the workbook itself.

The project culminated in a set of lessons that directed students to discuss a few limited food issues, but does not systematically teach them how to forecast. The History of California Agriculture lesson engages students to explore how they are connected to the food industry by identifying family members that work in the food industry. The Nutrition and Healthy Choices lesson cites a peer-reviewed article that correlates a higher incidence of fast food restaurants in low-income neighborhoods than in middle and upper-class neighborhoods. The Food Debate lesson directs students to debate whether a nearby city should pass a proposed ban on new fast food restaurants in the city. The rest of the lessons focused on writing and digitally illustrating a story set in the students' futures. In the Imagine Your Future (Parts I and II), students learned how to write a story set in their future. Homework assignments throughout engage the students in finding pictures that illustrate the context and action of that story. FRO and GG wanted to be able to post these “digital stories” on YouTube or their respective websites.

The designated FRO teacher for each week brought in a snack to generate critical thinking discussions about modern food processing and nutritional content (which is not mentioned in the workbook). Journal-type questions at the end of each weekly lesson were intended to engage the students in critical thinking about the lesson's content. Questions such as, “How has [this lesson] changed the way you think about food?” attempt to get the students to reflect on what the lesson taught them personally. At the end of the workbook, evaluative questions were posed to the students so that GG and FRO

could discern the value of the workbook based on students' opinions.

It should be noted that I was not involved in the implementation of the lessons, nor have I been able to interview any FRO or GG members since that time. As a result, the actual outcomes are not fully reflected in my analysis herein. This report focuses on the process, rather than the outcomes of the effort. The conclusions made in this report are resultant from reviewing the meeting notes, the workbook itself, and the student evaluation responses.

### **Initial Design**

The agreed collaboration between GG and FRO caused FRO to design its pilot curriculum according to GG's content areas and weekly schedule. FRO was allotted one hour per week to teach its lessons, which was roughly aligned with GG's content areas. GG has four major content areas:

- General Introduction to Agriculture
- Food Systems Science and Stewardship
- Personal Health and Nutrition
- Community Connections

Although the FRO team envisioned being able to contribute to three of these areas (except Food Systems Science), the workbook only included a lesson on Agriculture. Community lessons were excluded because the team felt that more time needed to be devoted to writing and digitally illustrating the story lesson. As I will discuss below, the

Personal Health and Nutrition lessons that the workbook contained were intended to open up discussions about food: the food sources, the nutrition, and the food choices available to the students. The lessons evolved quickly over a period of only two months, which did not involve much reflection on what each of the lessons would actually accomplish. As a result of this time constraint and other organizational and personal forces, the workbook contributed a limited and underdeveloped set of lessons to the GG program.

The completed workbook was visually interesting; each lesson was enhanced with illustrations, humor, fun facts, and quotes in the side margins. In keeping with FRO's production standards, the workbook looks professionally designed and published. However, the primary function of the workbook was supposed to be a tool to teach students how to "think systematically about their futures." The students were asked to explicitly focus on one event that would take place ten years from now and write a story about it. Other lessons in the workbook discussed how eating an excess of "fast food" can lead to diseases in the future. These lessons did not culminate in a curriculum that teaches students how to *systematically* think about their futures. The workbook did explicitly teach the students how to write a story about one moment in time 10 years from now, but not how to forecast their reality. That moment may include a picture of their occupation, family, education, and geographical location, but it did not connect how the student gets from today's reality to that future moment. There was no consistent focus in the workbook's lessons that prompted the students to think about their reality ten years from now, nor did it teach students how to go about doing so. It may have been implemented in the classroom differently, but I have been unable to interview FRO or GG members post

facto to know for sure.

Another goal listed in the proposal was to “empower students to become agents of their own futures by teaching them how food systems affect their (current and future) health.” Food systems were only touched on in the workbook. One lesson taught students that the food system is not limited to growing food, but rather anyone who sells or serves food is part of the food system. However, the connection between the food system and how it affects one’s health was not discussed. The workbook’s lessons on food talked about how eating too much fast food or fatty food can lead to health problems in the future, but this was not revealed to be a part of the “food system.”

The completed workbook was employed without undergoing an unbiased evaluation and was not compared to the project goals. In retrospect, this should have been done in order to deliver a more valuable product. At the time, either the existing product was employed, or FRO would have to wait six months for the next semester to implement a revised product. In FRO’s client-centered culture, FRO is hired to generate artifacts (forecast maps, brochures, presentations, etc) for the clients. In such a structure, the only answer to “why are we doing this” is “because the client wants it.” Therefore, although the SFP differed from their standard operating procedures, it was second nature for the team to fit the SFP into their standard operating model. In such a model, there was no urgency to compare the goals of the project with the product, because the product itself is the thing of value. Goals and objectives were discussed in the first two meetings, but no specific plan of action was described and individuals were not assigned tasks in order to

meet the objectives. The general outcomes were agreed upon, but there was no leader to drive the product toward successfully meeting specific objectives.

### **Project Process**

During the early meetings, the FRO team brainstormed ideas for lesson plans, including their structure and function. The objective of each lesson was to contribute something to GG's three content areas using FRO's perspective that knowing about cause-effect relationships will make students more likely to make good choices. Several lessons were suggested during the first and second weekly meetings, each of which focused on either food or food systems. Lynn wrote out an introduction, the instructions for the first lesson plan, and a synopsis of the lessons yet to be written. She suggested that the students each have a journal that could also be used for reflections on what they learn, and as an aid to developing their forecasts. Lynn also stressed the importance of evaluation, so the team anticipated that the students would answer evaluative questions during the course of the lessons. Specifically, she was interested in learning how the students reacted to the lessons: How did it change their minds about food?

At the following meeting, the team discussed the language of this preliminary material, and how to make the journal a tool for the forecast. I suggested that we create a workbook that would incorporate the evaluation element, but also act as the teaching tool itself. The FRO team responded positively to this suggestion, as they are used to creating tangible deliverables. Although Lynn had curriculum development experience, she was at FRO only part-time. I imagined that the workbook could be a way for the other four team



members to work on something tangible that they could then give practical input on.

The workbook was an easy fit in this sense, because it can be thought of as analogous to a forecast artifact. FRO will generally provide clients with a forecast artifact, such as a map, which visually summarizes and simplifies their research. A curriculum is the culmination of a series of ideas directed at the same general idea, each of which is taught in the form of a lesson. This can be a vague and abstract teaching method, unless the lessons are written out, and their goals and objectives are made transparent. Thus, having a workbook that contained the lesson plans would allow the FRO team, which would be teaching in the classroom, to be on the same page as their students.

Initially, the workbook was going to be designed specifically for the teacher, and a subsequent student workbook would be formed after the teacher's version was completed. This changed over the course of the project because the FRO team began to think of it as the primary teaching material, rather than a teaching tool. The deadline was moved up so there was not time to create both a teacher's version and a student's version. The FRO team ultimately treated the workbook as the material that would teach the students, and that the FRO team would only need to rely on its language and content with minimal improvisation or deviation.

There was some disagreement about the language of the workbook. Penelope and Rory wanted the workbook to have the voice of a middle-schooler, while Lynn wanted it to speak to teachers in general. The language Lynn used for the preliminary introduction and first lesson was written in a voice that addressed the students, as if FRO was talking

to the students as a teacher might. Penelope and Rory expressed concern that the language used was inappropriate for our age group, regardless of who was speaking. Judy and Harry from GG stated that the language should be in middle-schooler voice. Since there would be no teacher version, the voice was most appropriately one directed toward a student audience.

### **Design and Development via Five Drafts**

Generating the text for the SFP workbook was a process that began with lesson ideas from the weekly team meetings and personal correspondence between individual team members. Typically, the core idea of a specific lesson was discussed during the team meeting, then I independently generated the text that directed the lesson in the workbook. This text was then edited, deleted, or replaced by one or more team member. This process continued up until the project deadline, with minor alterations to various texts being made continually.

The following section recounts the process draft by draft. Each draft had non-text edits regarding the graphic design that will not be discussed because they are peripheral to this report. The FRO team wanted to have at least three lessons, one for each of the GG content areas that FRO wanted to contribute to. The FRO team also wanted at least two lesson sessions to complete a digital story for each student. Finally, the FRO team wanted evaluative questions to be completed either at the end of the lessons, or throughout the lessons. The team would have ten one-hour in-class sessions to teach these lessons to the

intended audience. The lessons could be split between multiple class sessions if necessary.

### **First Draft**

The first draft was primarily a template for the design of the workbook. It incorporated existing text that was created by Lynn into a workbook format, including the Introduction and the first lesson, History of California Agriculture.

### *Introduction*

At the next group meeting, we discussed both the format and the language. However, the team returned to the issue of the voice used in the Introduction; that it was inappropriate for our target audience.

#### **Excerpt:**

The future is using your past and your present to shape the kind of life you want when you're an adult, which really isn't all that far off when you're in 7th grade—about 5 or 6 years.

Sometimes because of life's challenges, people get stuck in the past or can only see from day to day.

So, they stop dreaming; they stop hoping, just give up at some level—if not on everything, then on the things that seem too overwhelming. When you're a child, we all have this ability that we're probably born with—to dream and imagine all kinds of possibilities.

But many people start to lose this ability to hope and dream at about your age---when life starts getting more complicated—more home-work, how to make a living when you grow up, college, relationships with boyfriends or girlfriends—things you don't have to think so much about when you're children.

Penelope was concerned that it was too romantic and students would not take it

seriously. Rory concurred; she said that middle-schoolers tend to tune out if adults talk this way. Judy from GG said that the message contained in the language was great, and that she wanted to retain the emphasis on students continuing to imagine their futures hopefully and positively, but agreed that it should be revamped.

### *History of California Agriculture*

This lesson fits with GG's first content area (Introduction to Agriculture), and linked the past and present for the students. The lesson instructed the students to identify the farmers in their families, either living or dead. Once the farmers were identified, their dates and locations would be placed on a class timeline. The team assumed that this would illustrate how farming has changed; that there would be fewer farmers today than there were fifty years ago. The students were also asked to answer food-use related questions that might illustrate change, such as, "[D]id they sell what they grow or did [they] just eat it?" The first draft of this lesson presupposed that the students would all have farmers in their ancestry and would be able to identify them readily. However, upon further discussion, the team agreed that this was unlikely, and therefore should be a homework assignment.

### **Second Draft**

In the second draft, I edited the existing language of the Introduction, but also created the text for several lessons that were outlined in the previous meetings. The first two weekly meetings produced a number of lesson plan ideas. However, it should be noted that these did not focus on how to teach students to think about their futures, nor

how to create a forecast of their personal health futures. Rather, the focus was on trying to fit in with GG's content areas. The team discussed the general action for the lessons more often than the reason for the lesson then I was directed to generate the text for each. These lessons are entitled: Mapping Local and Regional Food Systems, Nutrition and Healthy Choices, and Fast Food Law on Trial.

### *Introduction*

From the previous meeting's discussion about the tone of the language, I edited it to be less romantic without losing the message it contained. My primary goal was to retain the integrity of the original message, but alter its delivery.

Rewritten language:

Children dream big, and they imagine all kinds of possibilities. As we get older, it gets harder to hold onto our dreams. Studies show that people who dream big and often are more successful than people that do not. These people imagine how they want their future to be, they learn from their past; and then make choices in the present so that their dreams are possible—even with big obstacles in the way.

You may not be aware of this, but you make choices about your life and health every day. We hope that you will learn to think about your choices in this class. By the end, you may decide to make different choices about the food you eat. The choices you make right now will affect how healthy you are in the future. Being healthy is not limited to what you eat, but we are going to focus on food choices in this class.

In addition, I used a more casual voice and employed sarcasm, which Harry suggested at the previous meeting to be a highly effective means of engaging this age group. I used sarcasm in small doses throughout the rest of the workbook, especially in areas that I wanted to highlight. For example, I used the sarcasm to emphasize the

explanation of what FRO does:

For example, think about video games...In 1984, game systems had a simple joystick with one button...Now most game controllers have 10 or more buttons and the graphics are much better...So, we are pretty sure that in another ten years, all video games will have only one button again. Of course not! We can see that video game systems have been getting more and more complex. So, we can safely assume that controllers will have more functions in the future.

I added a synopsis of issues that the students will focus on in the course of the lessons, which should help them understand their purpose. In summary, it states that the lessons will discuss food choices and health.

#### *History of California Agriculture*

Judy suggested that we make our instructions explicit for the students, so I added the corresponding instructions for the existing lesson (e.g. "Write your own answers in complete sentences..."). Since the team decided to make identifying the farmers in the students' families a homework assignment, the in-class portion of this lesson was to create the sticky notes that would be placed on the class timeline. The students would break into small groups and interview each other and record the answers on sticky notes. They would also record their own answers in their workbooks. At the end of this lesson, they would answer their first evaluative question, which was written by Lynn: "What are three ways that you think that your family's history with food influences your health today?"

#### *Nutrition and Healthy Choices and Fast Food on Trial*

These lessons are parts one and two of the same lesson, which connect to GG's

Personal Health and Nutrition content area. In part one (Nutrition and Healthy Choices), the students read an article about an ordinance that was proposed by a nearby city council to ban new fast food restaurants from being built in the city limits. In part two (Fast Food on Trial), the students role-played a chosen stakeholder to debate whether the law should pass or not. Previously, Rory suggested that we use a lesson that employs role-playing, as she found it to be the most effective and engaging educational method in her experience. The team decided that having a debate about a food issue would be a way for the students to learn different perspectives. Lynn suggested that we have the students debate a volatile issue, like the growing opposition to building new fast food restaurants. I found an article in the Mercury News about this issue, and used it as the basis for the lesson.

The article I chose contained quotes from several different stakeholders, including council-members, parents, store owners, and the mayor. I wrote profiles of these stakeholders, which were summaries of who the stakeholder is and what their position on the issue is. The students were expected to read the article (which summarizes the issue), read through the stakeholder profiles, and then sign up to represent a stakeholder. Since the article did not contain any reference to perspectives of teenagers, I left room for the students to sign up to debate that perspective. I wanted the students to be able to openly discuss the issue in a way that they would not be put on the spot if they were on one side or other of the issue. They are expected to play the part of their stakeholder in the following class session during the debate. I also allowed for more than one student to sign up to represent a parent, which would enable the students to embody several different parent perspectives on this issue (e.g. "It's the only restaurant food that I can afford" or "I

don't think it's bad for my kids" or "I hate fast food, and wish it were out of my neighborhood").

The objective of these two lessons was to get the students to talk about fast food, with an emphasis on expressing reasons for eating it. The lesson presupposed that the students will generally accept that fast food is unhealthy. It stated that food choices are limited in low-income and minority neighborhoods, and asked the students to pay attention to where their fast food restaurants are in relation to where they live and go to school. By doing so, the team wanted the students to be aware that they did not have to eat what was nearby, and to question why they eat what they eat.

The FRO team members each went through the second draft of the workbook and gave feedback on the language and content. The Mapping lesson was deleted because Judy had an almost identical lesson that she was already using. The lessons that would teach students how to write their personal health forecasts were not yet written. However, the team wanted the students to be collecting images that would illustrate these forecasts.

### **Third Draft**

Draft three concentrated primarily on the History of California Agriculture lesson and the forecast lesson, the title of which was changed from Digital Story to Imagine Your Future.

### ***Introduction***

I replaced my FRO example in the introduction with text generated by Rory. She wrote an alternative to the example I created in the Introduction to explain what FRO



does, which substituted the evolution of video games for the evolution of YouTube from television. This example is a bigger leap of complexity, but is still effective, and is a more informed example of FRO's process.

### *History of California Agriculture*

I added an introduction to the History of California Agriculture lesson, which explained that knowing history helps to clarify why things are the way they are today. This included a short personal history as an example, which introduced the fact that most people's families have not lived in California for more than a few generations. It also notes that although a few generations ago, most people grew their own food, that is not the case today.

The team wanted to highlight the fact that U.S. agriculture is largely an industrialized commercial process, not a local or personal one, but that this was not always the case. The students were tasked to identify the farmers in their families (past or present). During two team meetings, concerns that the students who were part of migrant farm worker families would feel singled out or otherwise embarrassed were discussed. I suggested that we could avoid this issue altogether by opening up the focus to include all aspects of the food industry; restaurants, grocery stores, poultry factories, and wineries are all parts of the industry. This had the additional benefit of teaching the students that food is not only grown, it is processed, packaged, shipped, and sold in many different ways. It also ensured that every single student would be able to participate in this lesson, and choose what information they wanted to share. For example, if a student had migrant farm worker parents but did not want to share that information, he/she could say that his

grandparents grew vegetables in their garden, or that his/her older sibling worked in a grocery store.

### *Imagine Your Future*

This draft initiated the forecast lesson with instructions for the students to begin collecting images to use in their digital stories. This initial portion had the students collect three images that relate to where they get their food from, such as the grocery store, or spice garden. The students were given digital cameras to take home with them in order to collect these images, but they could also be sourced from magazines or the internet.

The culmination of this lesson was to be a personal food and health forecast for each student, which would be told in a digital movie using still images and a voice-over. However, I was at a loss as to how to undertake these tasks. I have no experience generating forecasts and I could not conceive of a way to teach middle schoolers how to go about it, but the project did not allow time for research. The team believed that the YPW could be used as a basis for this lesson, despite the fact that it used foreign terminology. Judy from GG said that she had been trying to think of language that would easily substitute, but had not come up with anything effective. Lynn was confident that we could find a substitute for the language, and that as long as we introduced the concept early on in the lessons, the students would be able to understand and reflect on it.

The questions from the YPW gave the students concrete questions (How old will you be?) and abstract ones (What kinds of responsibilities will you have?). I felt that my role was not to determine the best way to teach how to write a forecast, but to rather

make the lessons and language as clear as possible. As a place-holder, I placed the instructions for the forecast from YPW directly into draft three.

#### **Fourth Draft**

The FRO team was focused entirely on finishing the workbook, which was due in two weeks at this point. Due to this constraint, no new lesson plans were being added, nor were the goals and objectives of the existing ones discussed. The third GG content area that FRO wanted to contribute to, Community Connections, was omitted. The lesson requiring the most attention was the Imagine Your Future lesson, which relied on the inappropriate YPW language. This fourth draft addressed the latter issue, but the former ones were never addressed. However, the existing text was thoroughly edited and reworked.

#### *Introduction*

Penelope felt that the Introduction was verbose and still a bit romantic. During a private meeting, she and I re-wrote much of the text. This draft's Introduction connected the YouTube example to the Digital Story lesson, stating that the students would be making a type of video called a Digital Story. The rewritten text also connected dreams, forecasting, and choices:

[People who dream big] imagine how they want their future to be, they learn from their past; and then make choices in the present so that their dreams are possible – even with big obstacles in the way.

It went on to state that people eat for many different reasons, not just because they are hungry, and what they eat matters as much as why. It concluded that this workbook is

not going to inform them what is healthy, or what good food is, but that the students are expected to think about these issues and decide for themselves.

### *History of California Agriculture*

The in-class portion of this lesson requires the students to interview each other and record the answers on sticky-notes for the classroom timeline. Judy requested that there be an example for the students. Previously, I wrote an example that told the story of a person who immigrated to California from the Midwest, but her parents had been farmers there. The FRO team wanted to limit the example story to California, so I changed her origin from the Midwest to the Central Valley. Harry suggested that we present brief biographies of positive role models within the food industry as part of our History of California Agriculture segment. I added a picture and brief bio of Cesar Chavez and Will Allen (CEO of a local organic garden in Brooklyn).

### *Nutrition and Healthy Choices*

The FRO team wanted to remark that poor and/or minority neighborhoods have the most limited healthy food options. No one mentioned any specific studies or research that would support this statement, just a vague “studies show” statement. I researched and found the study that first published the results in 2006. The St. Louis University study that found that fast food restaurants are more frequently located in poor and minority neighborhoods and that the same neighborhoods have the fewest supermarkets (Baker, Schootman, Barnidge, Kelly 2006). To this finding, I added to the lesson introduction that although fast food may be unhealthy, most fast food restaurants have healthier options on

the menu, and urged the students to consider ordering those healthier choices.

### *Imagine Your Future*

During the weekly meeting, the team discussed the language of the YPW in the workbook. The YPW used “drivers of change” to highlight ways that the future could differ from today. As previously discussed here, this phrase is not self-explanatory and foreign to the target audience. Rory suggested that we substitute “signals” for “drivers,” however, I argued that “signals” was no clearer than “drivers.” Judy said that it would merely confuse the students if they had to learn new terminology, so we should try to avoid any fuzzy words like “signals.”

In draft four, I attempted to replace “drivers of change” and all references to it with more relevant and transparent examples of ways the future could be different. I used “change” instead of “drivers of change” or “signals of change.” For example:

What could change? Well, we know that global warming will cause changes in the weather, and it may affect our food production...People may react to those changes by growing some food for their own families in small community gardens.

I addressed genetically modified foods, and technological advances in medicine as well. I then posed the following questions: What do you imagine might be different? What do you hope will be different? Can you do anything to help make that change a reality?

Victor suggested in a meeting that we have the students imagine a very specific situation, like preparing a meal, as a starting point for their digital story. Branching from that idea in the instructions, I posed that if the students were not able to begin writing,

that they could use this prompt:

Imagine that you are going to make a nice meal for your girlfriend/boyfriend. What foods will you buy? Where will you buy them? How will you get to and from the store? Will you use a stove, a grill, a microwave, or something else? Will you be living in an apartment, house, or dormitory? Will you have roommates?

### *Evaluation Questions*

Prior to this draft, the three questions generated by Lynn were not changed. However, Penelope argued that there was some redundancy built into the original questions, and that we may be better served by changing them. Lynn did not object to this. The original questions were:

What are three ways that you think that your family's food history influences your health today?

How has this class changed how you think about food?

What food choices can you make now that will keep you healthy?  
What does it mean to be healthy?

Rewritten questions:

What does it mean to be healthy? Do you make any food choices that make you unhealthy? What food choices can you make now that will keep you healthy in the future?

What are three ways that you think that your family's history with food influences your health today? Do you eat or avoid eating certain foods? Does your family cook in a certain way? Do you eat a lot of fresh food, or processed foods?

How has this class changed how you think about food? What have you learned about what goes into the food? Has this class changed how you think about how food gets to you? Has this class changed your mind about what food means to your health?

Judy also urged the FRO team to include an example any time we asked the

students to complete a task. In the fourth draft, I generated examples to answer each and every question that the students were given to answer in class or as homework. These examples typically reflected what the team hoped the students would say after participating in the lessons:

Question: Do you make any food choices that make you unhealthy?

Example answer: I eat fried food too often. I am a sucker for McDonald's milkshakes.

Note that fried food and McDonald's milkshakes are now qualified as unhealthy. This was my example, which was validated by the team. It reveals that an underlying team goal was to change the students' eating habits, presuming that most of them eat fast food and other “unhealthy” foods frequently. The FRO team reasoned that knowledge (that fast and fried foods are unhealthy) would empower the students to change their circumstances (eating unhealthy foods). Students were not explicitly told to agree or disagree with this opinion, but implicitly, the lessons are defining what is unhealthy, without qualifying what is healthy.

### **Fifth Draft**

The fifth and final draft was completed over the course of only a few days in order to finish under deadline. The fifth draft centered on completing the forecast lesson, and is the product of collaboration between myself and Penelope. Lynn and Rory were working on other projects during this time, and Victor and Holly had stopped coming to meetings at this point. I am unaware of any specific reason for their absence, but assume they had

concurrent projects that took priority over this one.

The Imagine Your Future lessons were derived from the YPW, but were altered significantly. The YPW, as previously discussed here, was inappropriate for our audience. However, Penelope had been part of the workshop that used the YPW with high school students, and she was confident that we could adapt it to our audience. We abandoned everything except the literal instructions on what to write. For example, “Where are you? Who are you with? What do you see, hear, smell?” (Workbook, 2008, p31).

The Imagine Your Future lesson was designed to develop throughout the 10 weekly lessons, with the students collecting images, writing self-reflections, and talking about the future as the end result of today’s choices. The homework assignment for the third week is the first part of the Imagine Your Future lesson. The students must produce or collect three to six images that represent food sources. The students are then required to write one or more sentences about why they chose that particular image. Gathering images alone does not tell a story, nor can a story be told with just any image. The team reasoned that it would be unlikely that the students would remember why they chose the images unless they wrote it down at the time.

The following class period is devoted to introducing the idea of writing a story about the future, and how the class will go about it. One of the FRO team members posited that the students may never have written a story. Penelope and I collaborated on this language, which attempts to explain how to write any story, and then how to place the story in a future context.

If the lessons are successful in teaching students how to imagine their personal



health and food environments in the future, then they should be capable of writing a story about that future. The instructions for the digital story lessons presuppose that the lessons are successful, and therefore instructs the students on the act of writing a story, using terms that emphasize that the story would be placed in the context of the future. We began with a simple explanation of what a story is, and how to go about telling a story. This also acknowledged that imagining is the difficult part for most people, so we would prompt the students using homework assignments and in-class questions.

The second half of the digital story lesson was designed to take place at the end of the semester. At this point, each student will have collected at least six images that are representative both of the foods they eat and the sources of the food (restaurants, garden, etc.). They will also have answered questions in a homework assignment that are designed to prompt the students to imagine a specific moment or situation that could take place ten years from now. The students could write about any moment or situation of their choice, as long as it relates to their health or diet. The homework assignment should generate a framework of a story for the students to write about.

The next in-class portion builds on that framework by asking additional questions about the context of the story and the action that takes place within it. The following class period allows the students to continue to build and write the story. The FRO team projected that this was going to be difficult for students to complete within only two weeks of in-class time (a total of two hours). Based on the YPW program, one and a half to two pages of written story was sufficient for a thirty second digital story, so these students were expected to write the same amount. The entire story will not be spoken in

the digital story, but the FRO team thought it was important to have a fully developed story. Once a full story was developed, the students would presumably be better able to shorten it to only a few lines for the digital story.

After having written the story itself, the students would attach images that illustrate the story. If the six (or more) images they collected did not correspond to aspects of the story they wanted to illustrate, they were encouraged to find images that would. Once they had their story completed and appropriate images collected, the FRO team helped the students to create the digital story by paring down the written story into a few lines, and narrated a digital slide show using predetermined software. After the students finished their digital stories, they were asked evaluative questions that enabled FRO to gauge the effectiveness of the lessons. These evaluative questions asked students to evaluate their current lifestyles, and presumed that they or their parents are making poor choices.

### **Analysis Methods**

During the production process, I made written records of the team meetings, personal communications, and personal insights to use as data for this project report. The workbook contained a set of embedded evaluation questions to be answered by the students at the completion of the ten week class. Although I requested meetings with FRO and GG team members to discuss the results of the workbook's implementation, the team members have not responded to date. However, I was able to gain access to the evaluation question responses from the completed workbooks, and have informal

conversations with two of the FRO team members. The analysis contained herein is derived from those conversations, my written records taken during the production process, the workbook iterations and edits, and the evaluations provided by students in their workbooks.

The written records are firsthand accounts of conversations that took place during the production process. I typed what people were saying as they were saying it during team meetings, recording word-for-word as often as possible, but otherwise recording the core phrase or sentence and a summary of what was said by each person. Any quotations used in the body of this report are taken from literal accounts. The meetings were not recorded using audio/visual equipment nor were transcriptions made.

At the completion of the ten week class, the participating students answered four evaluation questions: How has this class changed how you think about food? Has this class changed your mind about what food means to your health? What have you learned about how food is changed from the farm to your plate? Has this class changed how you think about how food gets from the farm to your plate? These questions evaluate the success of the three topical lessons, but do not evaluate the success of the Story of Your Future lessons, which include Imagine Your Future Parts I and II and Digital Story. As the data is normative and the sample size is 14 students, no statistical analysis was performed. However, data obtained from the student responses was analyzed using simple frequency tables. Each evaluation response was interpreted using three categories:

1. The overall response was:

- a. Positive

- b. Negative
- c. Neutral

2. What type of change was reported?

- a. Empowering
- b. Identified healthy foods
- c. Identified healthy and unhealthy Foods
- d. Identified unhealthy foods
- e. Generally informative
- f. No change reported

3. Did the student report any behavioral changes?

- a. Now do something different
- b. Intend to do something different in the future
- c. No changes reported

Frequency tables were generated from the results of the categorical analysis. The first category, Overall Response, was determined based on literal responses. For example, one student responded to the first question (How has this class changed how you think about food?), “That we should not eat fast food a lot of times.” This response indicates that something was changed, and therefore it is a “positive” response. A “negative” response was recorded when no change was reported. A “neutral” response was recorded when the student responded “yes and no.”

The second category, Type of Change, was subjectively determined. The subcategories were chosen because they were consistently reported throughout each of the four questions. For example, “That we should not eat fast food a lot of times” was categorized as “identified unhealthy food” because the student spoke negatively about a particular food. An example of an “empowered” statement is “It made me make better food choices about how I eat.” “Identified healthy food” was recorded when the student spoke positively about a particular food, while “identified healthy/unhealthy food” was recorded when the student spoke about one food negatively and another positively. I recorded statements that were void of any stated opinion as “informative.” For example, “Some food doesn’t come from the farm.” Finally, “no change” statements were those that answered “no” to any of the four questions.

Finally, the third category, Behavioral Changes, was determined by analyzing verb tenses. For example, “That we should not eat fast food a lot of times” does not denote that the student has changed his/her behavior, nor that he/she intends to change her behavior, so was recorded as “no changes reported.” If the response was “we will not eat fast food a lot of times” it would have been recorded as “intend to change” and if it was “we do not” it would have been recorded as “now do something different.”

## **Results**

The student evaluation questions and the corresponding responses reveal several successes and some shortcomings of the workbook. The students reported that they learned about food systems, they made connections between food and their health, and

they identified healthy and unhealthy foods. Only a few of the eleven students reported that the information was empowering and less than half reported that they have changed or plan to change their behavior overall. The students mention the future only in verb tense (e.g. “will,” “would”) rather than a temporal sense (e.g. “when I am older,” “as an adult”). There is little evidence that the students understand what it means to be healthy, or that they understand the causal link between today’s choices and their future.

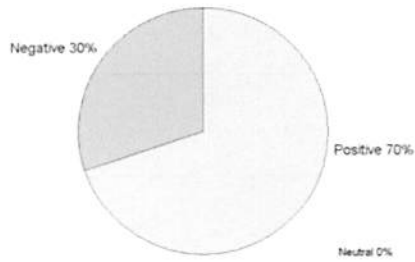
Question one asks “How has this class changed how you think about food?” This question was intended to gauge the overall success of the workbook. Question two asks “Has this class changed your mind about what food means to your health?” It is intended to gauge how well the students understand the connection between food choices and health, now and in the future. Questions three and four are similar, but distinct: “What have you *learned* about how food is changed from the farm to your plate?” and “Has this class *changed how you think* about how food gets from the farm to your plate?” The former evaluates the informative success of the workbook, while the latter evaluates behavioral modifications resulting from the workbook.

To be fair, the questions do not focus on the future, they focus on food and health. This is appropriate because the lessons in the workbook that the questions evaluate are centered on food and health. However, the questions are open-ended and should have elicited knowledge about the future, if present. Since the students did not report such knowledge, it indicates that the goal of the project, to teach students about health and how to forecast their own futures in the hopes that they will make good choices today,

had limited success at best. The most telling indicator of this is the responses to the question: “Has this class changed your mind about what food means to your health?” A few example responses: “Yes, it kind of has because now I know that some food is really bad.” “Yes because NOW I know that we should not eat fast food more than once in a month.” “It has because my health used to be crazy because I would always eat junk food, but now I hardly do.” These responses reflect the fact that the students are not forecasting how eating junk food will affect their futures; they are stating that they should not eat junk food to make their current state of health better. None of the students mentioned how eating unhealthy foods now will have consequences over time.

On the other hand, the vast majority of students reported that they learned something about food from the class. Eighty-five percent of the students reported that the class convinced them of the connection between food and health, and 70% reported that they now think about food differently (see Figure 1). Every student reported learning something about how food gets from the farm to their plate, but about one third of students reported that the class did not change the way they think about food in the context of the food system (see Figure 1).

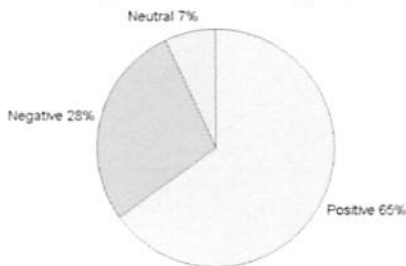
Has this class changed how you think about how food?



Has this class changed your mind about what food means to your health?



Has this class changed how you think about how food gets from the farm to your plate?



Did you learn something about how food is changed from the farm to your plate?

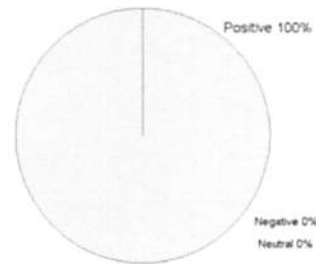


Figure 1. Overall Response Frequencies

A number of students responded strangely to the Farm to Plate questions. For example: “That food makes you fat.” “That they put flavors and they put other good things.” “Some foods you can eat.” These examples illustrate that the lessons are not clear enough about what the students should know about the food system. The first example shows that the student has made a connection between food and obesity, but it is unclear why he/she wrote that as an answer to “What have you learned about how food is changed from the farm to your plate?” Did she walk away from the class thinking that all food makes you fat, or that fresh food from the farm makes you fat, or that processed food makes you fat? None of the students expressed a desire to change the food system. A few delineated fruits and vegetables as “healthy” foods, but did not distinguish the



difference between processed and unprocessed fruits and vegetables. This is an important factor since the weekly lessons were to be supplemented by in-class snacks that were going to be used as illustrations for the differences in nutritional and environmental value that unprocessed foods provide.

About half of the students identified unhealthy foods as a result of this class (see Figure 2). This result is not surprising, as two weeks of the ten week schedule was devoted to debating the merits of fast food. Fewer made statements that identified healthy foods (see Figure 2). This indicates that students may know they should avoid certain foods, but do not have a clear sense of alternatives to those foods. They have made the connection between “bad food” and “bad health,” but not how to make a plan to achieve or maintain health.

In fact, only two students made statements that reflected a sense of empowerment: “It has changed it because now I work out a lot more.” “It made me make better food choices about how I eat.” These statements illustrate the changes that students made as a result of taking this class. One half of the students indicated that the class was informative: “Yes because I didn't think they put chemicals.” “Yes because now I know it doesn't come from factories.” “Yes it does. It also makes me think of how they cleaned our food.”

Roughly one quarter of students reported that the class did not change the way they think about food (see Figure 2). The responses were generally nonspecific: “No.” “Nothing.” “I think the same about food.” One student said, “It didn't really because I

don't buy the food.” This statement indicates that the student has likely dismissed the information because he/she currently has no choice over what he/she eats. The student is not thinking about how he/she will treat food when he/she does have control.

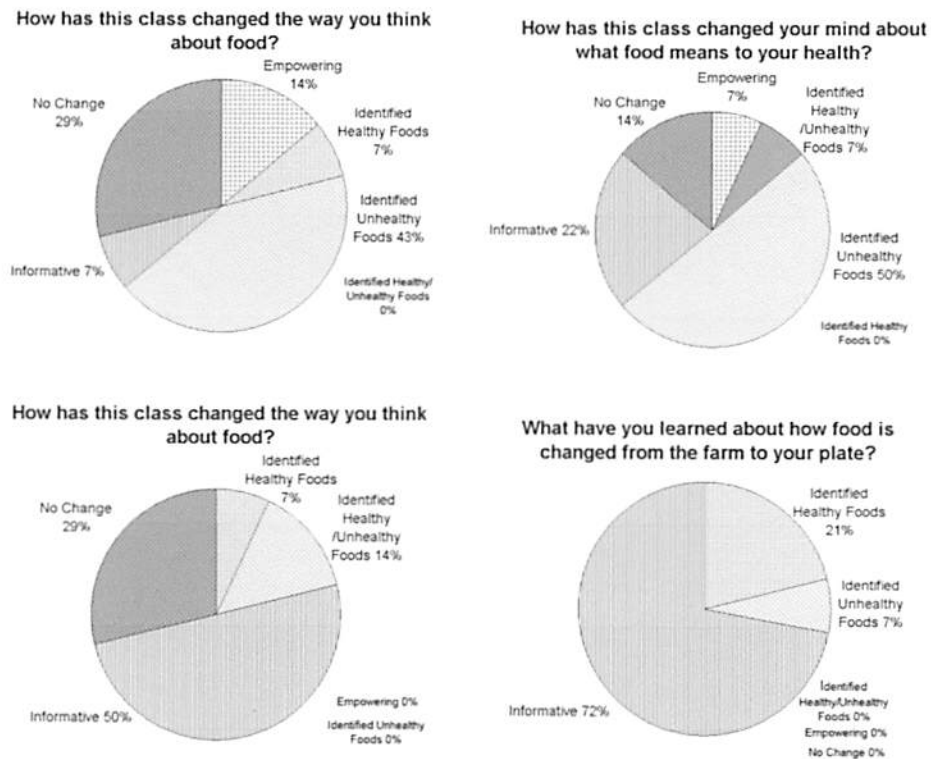


Figure 2: Changes reported

In keeping with the categorical analysis, the behavioral modification analysis also shows that few of the students have changed or say they will change their behaviors as a result of the class (see Figure 3). The least impact on behavior came from the connection between farm and plate lessons; with 86% of students reported no behavioral changes

(see Figure 3). The connection between food and health impacted the behavior of one half of the students (see Figure 3). Overall, 64% of students reported no changes in behavior as a result of the class (see Figure 3).

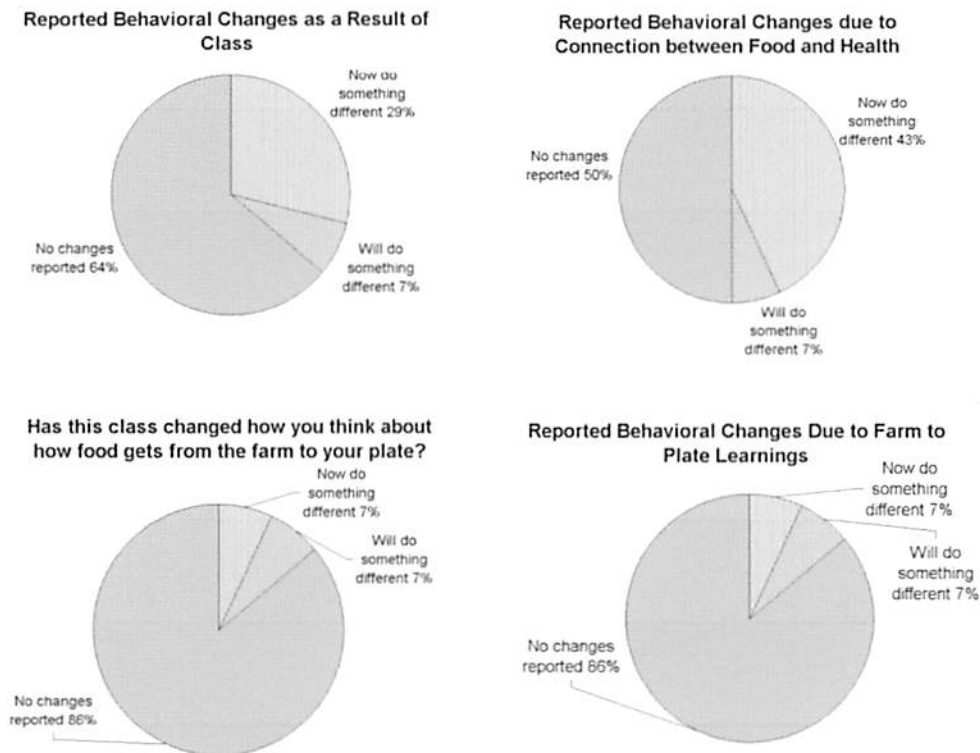


Figure 3: Behavioral changes reported

## Discussion

The evaluative questions do not encompass the Story of Your Future lessons and therefore cannot be used to measure the overall success of the project. However, they can be used as a barometer of the extent to which the project met the goals of its developers. Some students reported making positive behavioral changes, but none mentioned doing

so to ensure a healthy future. Students' responses did not reflect consideration of the distant future; the only future tense used was never qualified with a timeframe (i.e. No student said anything akin to "I will eat less junk food from now on, so I won't have diabetes as an adult.") Perhaps a better evaluative question would have been: What are you doing differently now that you have been through the class that will keep you healthy in the future?

Also, during informal conversations with FRO team members after the completion of the class, I learned that the students struggled with the Story of Your Future lessons. One of the FRO team members believed that the students were unable to really grasp the Future lessons because they were completely unfamiliar with that kind of thinking; the students talked about the next two to three years, but could not imagine ten years in the future. Somehow, the future was lost in translation and forecasting was out of reach for these students.

The workbook lacked a solid foundation and provided an inadequate structure for the students to build knowledge upon. The lessons need to be built one upon the next, rather than exploring three topics disparately. Complex ideas can be taught, but doing so requires careful attention to the sequence of learning. Below, I suggest what could have been done to make this project more successful and provide more background information to better understand where and why the project failed to meet all its goals.

### *Why Forecast?*

Through my conversations with the team about the project, I learned that FRO reasons that children would use forecasting for their long-term life strategies. They

believe that if children are taught to think about their futures early on, then they will be more likely to make conscious decisions, which will empower them to improve their lives and their communities as well. FRO team members expressed faith that anyone could learn how to forecast. The SFP presumes that the intended audience is not currently empowered, and is not making conscious decisions about their health. Finally, they believe that the audience needs to forecast for themselves in order to make more empowered and conscious decisions. FRO wanted to use the SFP as a vehicle to teach students how to identify key factors that will affect their personal futures. They did not assume that the students would be able to create a forecast map, but they did want the students to write and digitally illustrate a single story of their future.

Since FRO had used the YPW successfully in the past to teach middle class high school students how to forecast using a digital story, the team members were confident that they would have a similar experience this time. Unfortunately, this was a completely different audience: the students were younger, from impoverished families, and were less familiar with the technology required to create a digital story.

### *Organizational Culture*

An influencing factor on the project's success is FRO's distinctive language. One example of this language is the phrase "drivers of change." It is a succinct phrase that translates into laymen's terms to mean "something that causes or speeds up change." An outsider would need to learn the phrase's meaning in order to competently participate in a conversation at FRO. Members of the project's intended audience are not members or clients of FRO, and therefore have no experience or integration into this language.

However, all existing FRO products employ the same sort of language. Here are several more examples taken from FRO published materials: “platforms for sociability,” “mobability,” “protovation,” “self-configuring sensor networks,” “amplified individuals” (FRO 2003; FRO 2008a; FRO 2008b). In order to create a working set of lessons for middle school students, FRO would need to translate its jargon into a more accessible language.

During the project, the team members continued to express ideas using this lingo. As the primary workbook designer and writer, my role evolved from assistant into team translator. The various team ideas needed to be translated into a form and lexicon that a middle school student would understand. Even the term “forecast,” the very fabric of FRO’s work, was an unfamiliar term for the pilot audience. For example, in a meeting that the FRO team was discussing how to teach the students how to forecast, Penelope explained:

We look for signals of change, then try to infer what those signals mean, and envision what the future would look like based on that. For example, a signal of change may be a new garden at school or a new farmer’s market in town. The sign of change means they have access to healthier food, and their future may be a state of better health (Heidebrecht, 2008).

My translation of this idea is on the first page of the workbook “[FRO] looks at what is changing in our world today, and tries to think about what these changes will mean for the future (FRO, 2008 (3)).” However, even this translation may have been unclear to the students, as the evaluation responses show a lack of understanding about the future. The concept of the future would likely need its own lesson.

The organizational language was also used to state the team's goals and intended methods for each lesson. For example, when explaining how role-playing would help students think critically, Rory said, "Taking the role of a stakeholder and acting out the prerogatives of the stakeholder allows kids to figure out the underlying interests [of the people involved], and act out the transactions" (Heidebrecht, 2008a: 2). Although Rory was aware that this statement would not be appropriate for the pilot audience, the idea needed to be explained to the students in the instructions for the lesson. It had to be re-phrased in such a way that would maintain the integrity of the idea, but would be readily understood.

According to the Sapir-Whorf (1983) hypothesis, the language one uses shapes how one understands the world and how one behaves in it. FRO uses distinct words and phrases that catch the reader's attention and define the FRO brand. However, the language does not readily communicate meaning, which makes it necessary to ask for additional information. This is beneficial to FRO because it makes their forecast maps and other artifacts sound unique and important. If you need insider knowledge to understand them, then it communicates that FRO has special knowledge that can only be gleaned through a protracted relationship. If the reader is a client (typically a business organization), using FRO knowledge could give them a competitive edge. Likewise, because the language is distinctive, the client is unlikely to find anything like it from another source.

The organizational language also contributes to the organizational culture. Although the FRO team members are acutely aware of this part of their organizational

culture, they are apt to continue to use the terminology, rather than translating it to laymen's terms. For example, during the first meeting, I was asked if I knew what they meant by "forecast," and several team members expressed surprise that I did. I was told that most of their clients and members are not familiar with the term and need a thorough explanation of its meaning. However, FRO continues to use the term and explain its meaning.

In the first SFP meeting, Lynn gave everyone a matrix that revealed this propensity to the team. She categorized four language types: FRO, YPW, Adult layperson/GG instructor, and Youth layperson/middle school student. She then translated descriptions of aims, goals, objectives, activity options, and learning tools into each of those categories. For example, the difference between FRO and a Youth layperson: "Students will gain foresight and understand the drivers of change that impact their futures" vs. "We'll learn how it is that what you eat and how you get your food today determine whether you'll be healthy years from now." The team reacted positively to this matrix, noting that it would be useful to keep the mindset of the intended audience. However, as previously stated, review of goals and objectives were abandoned by the fourth team meeting and the FRO language persisted throughout.

It makes sense that the FRO employees would be expected to use the language, even when in casual conversation about their work. This aspect of organizational culture affects how they speak about their work and how they speak to clients. The language controls who has the knowledge and how it is disseminated. Employees adhere to the language while at work because the organizational culture demands it; using the language



gives power within the organization. However, the power of the language worked against the goals and excluded the intended audience of the SFP.

Although Lynn, the team leader, brought this language issue to the group's attention, the team members continued to use the same phrasing. Early on, Lynn produced a matrix that translated an example of FRO language to an adult layperson language and a young layperson language. The team all expressed surprise and gratitude for this translation and agreed that the FRO language needed to be avoided for this project. This is especially important since the project's intended audience is middle-schoolers. However, in subsequent meetings team members continued to express ideas for the lessons using FRO terminology.

Communication is the creation of shared meaning between two or more parties (Jaehne 2009). In order for communication to be successful, the parties must be using a language they both understand. If one party is using a language that is not fully understood by the other, then much of the meaning is lost. Parties that have different meanings attached to the same words are not truly communicating. Likewise, words whose meanings are unknown or misunderstood will communicate either nothing or the wrong meaning to the receiving party. If the parties cannot communicate in the same language, then all meaning is lost and neither party is understood. Although I tried to translate the FRO ideas into an appropriate syntax and semantics, there was undoubtedly much meaning lost in translation.

The team had a collective resistance to questioning hidden assumptions once

production began. The first two team meetings included discussions of aims, goals, objectives, methods, and assumptions, but these areas were not reviewed afterward. Although I attempted to begin such a discussion again when I felt concerned about the message embedded in each lesson, the rest of the team was ambivalent at best. At the point that I tried to do so, the team was in the middle of the project, and focused on completing the project rather than questioning its validity.

FRO wanted the workbook to be completed in time to be implemented in the GG semester, which began January 2009. The workbook was printed in the middle of December 2008. If any editing would have taken place, the workbook would not be implemented until the following fall (August 2009), which FRO did not want to do. The team was therefore overtly committed to the project deadline and the need to present a deliverable, which superseded the stated project goals. Due to this FRO team momentum, I did not insist that the team continue to analyze the outcomes, goals, methods, or assumptions of the project. Despite the fact that two of the other FRO team members are anthropologists as well, these issues were not given much credence during my participation in the project. This is supporting evidence that the FRO organizational structure prevents or dissuades this type of inquiry in order to ensure client satisfaction by meeting the timeline. This problem is probably not unique to FRO or this project. It is important to be mindful of an organization's structure and tendencies, especially when they undermine a project's effectiveness. Keeping clients happy is certainly a valid reason to push a project forward. In retrospect, though, the project would have benefited from taking the time to look at some of the assumptions.

I would argue that the FRO team member decisions can be understood using the Organizational Behavior Model (Allison and Zelikow 1999). The model explains that an organization makes decisions or takes actions in the context of existing organizational structures, standard operating procedures, and is heavily influenced by previous organizational decisions and/or actions (Allison and Zelikow 1999:5). Therefore, each team member was operating within the confines of acceptable and expected behaviors and outcomes common to FRO. Although Rory may have wanted the lessons to employ more creative lessons, she was not the senior team member, and was constrained by the FRO structure of commitment to deadlines. Likewise, although Holly wanted to make the project generalizable, she had a peripheral role, and could not make that goal a focus of the product.

#### *Assumptions can be Problematic*

Questioning any assumptions would mean that the deadline would need to be pushed back, that the project plan was potentially flawed, and the team would need to gather additional information in order to continue. FRO is dedicated to making its clients happy, therefore the results of questioning assumptions may have been threatening to the team. Clients are generally unhappy when deadlines are not met, they are told their plans are flawed, or that they would need to pay extra for the unanticipated extra work spent on research. Although GG was a partner, not a client, the same operational procedures applied. In addition, FRO did not treat this project like a new endeavor. They did not assign roles to group members, they did not fully understand what information or human

capital was necessary to complete it successfully, nor did FRO prepare the team for the project in order to complete it successfully.

The SFP project design is built upon the presumption that 11-13 year old students will be able to imagine their lives ten years ahead. It also assumed that being able to do so will show students the results of their present choices, and incite them to make healthy ones. The project assumed that the students understand what it means to be healthy, or what a healthy choice is. It also assumed that knowing about the food choices available to them would be empowering to these students. Finally, it assumed that anyone can imagine the future as a tangible reality. None of these fundamental assumptions were ever questioned during the production process. Although none of these assumptions are stated anywhere in the project proposal or the completed workbook, they are easily identifiable. By choosing this age group, it follows that the project assumes the audience will be able to complete the lessons successfully, and therefore will be able to imagine their lives ten years from now as a tangible reality.

### *Personal Dynamics*

Personal dynamics undoubtedly influenced the process and outcome of the project. In group situations, people find their niche and work accordingly: unless they are assigned to specific roles, they will create their own (e.g. leader, researcher, note taker, etc) (Cronin and Weingart 2007). The FRO team members were not assigned roles, and therefore created their own agendas to meet their self-expectations according to their self-generated roles.

After analysis of my notes taken during the meetings, it became clear that each team member had individual goals that did not necessarily mesh with the stated project goals. These individual goals had a strong influence on the end result. Lynn established the framework for the project and was candid about her goals for the project. At the first group meeting, she stated that one of her over-arching goals at FRO is to perform evaluations of projects and products to determine their level of success. FRO does not currently evaluate any of its forecasts or other products.

Lynn expressed to me personally that she viewed this project as an opportunity to perform social action research, because a goal was to empower a disadvantaged community. This more personal goal was reflected in the language she wrote for the workbook's introduction. In her estimation, encouraging students to think about their futures would make them more active participants, and would therefore make better choices. Lynn was primarily interested in the SFP as a social action research project and she tried to keep the goal of community improvement at the forefront, which were also stated goals of the Legacy project. However, there was little outward support within the FRO group (consisting of Penelope, Victor, Holly, and Rory) for this goal; the group expressed interest primarily in the tangible deliverables that were attached to the project, namely the student forecast and the accompanying digital story.

Penelope was much more product-driven; she did not comment about what the product would do for the students, but she was concerned with meeting the expectations of GG. Her focus at the group meetings was to ensure that the digital stories were the culmination of the lessons, and was most interested in delivering them as a product. She

stated that if GG wanted to continue collaborating after this was complete, that she would see the project as successful. Therefore, delivering a quality product was Penelope's primary concern.

Rory was skilled at thinking theoretically, especially at meta-analysis of a topic. She was knowledgeable about youth culture, particularly in the gaming and social networking aspects. She gave the most input in the form of ideas, which were well-reasoned, but in a lexicon that is inaccessible to middle schoolers. Rory explained that her learning process made her stretch beyond her comfort zone, which she found to be engaging and fruitful, and although she never explicitly said so, I believe that she wanted this workbook to employ similar teaching methods. Her focus, then, was on educational methodology.

As peripherally involved team members, Holly and Victor had a weaker influence on the project than the others. Victor frequently reminded the group that food choices are inherently linked to ethnicity, and wanted to ensure the language was culturally sensitive. He also pushed the digital stories because he thought they would appeal to funders. Holly focused on the lessons' adaptability to other classrooms outside of GG and the Middle school pilot classroom. These team members were involved in the brainstorming, but not in the actualization of the project. Their input, in retrospect, should have been more important to the rest of the team, as it may have lead to a better product. These two agendas would have lead to questions and revisions that may have resulted in a more robust set of teaching materials that was generalizable and broader in scope.

As an intern on the FRO team, my agenda was two-fold: to use the project as a

foundation for a Master's Project Report and to enable the team to produce a workbook that met the team goals by the deadline imposed. As part of the former endeavor, I made written records of each team meeting, kept a copy of every draft iteration for future review, and tried to stay as neutral and unbiased as possible during the production process. The latter part of my agenda was more difficult, as it required me to adapt to the ever-changing needs of the team. I was secretary, translator, designer, and content creator while trying to deliver a product that the various team members could agree upon. Each of the stakeholder agendas was divergent and most were not explicit. As such, they influenced the project in ways that would meet individual agendas, but were likely never cognizant of doing so. It is also an indicator that although the overall goals of the project were agreed upon, they were not the only goals that impacted the outcome.

### **Recommendations**

The workbook would have benefited from a more systematic approach to presenting its concepts. Research into methods, theories, and existing resources would benefited the team members and probably improved the product. Understanding the developmental abilities of the pilot audience would help make the workbook a more effective teaching tool. The collaborative style was well-intended; however, the collaboration was not fully realized. The GG teacher could have lent her expertise to building a more robust set of lessons, or even a full curriculum. FRO could have used GG's curriculum as the foundation for their piece by building off of GG concepts to help students create a personal forecast without adding additional content. Furthermore, the

individual team members were not equally valued. Victor and Holly became peripheral to the project, but they were both very interested in creating a culturally sensitive and generalizable product. The workbook could also have only focused on teaching students how to forecast. If time was an issue, the workbook could have been expanded to a year-long curriculum instead of a semester-long one. However, the difficulty of producing a curriculum that could teach the complex task of imagining the future by converting the YPW to fit the audience and GG's content would remain.

### *Scaffolding and Concept Building*

The idea or meaning of the word "health" is never discussed in the course of the workbook. Students may or may not already have an accepted universal understanding of its meaning. Knowledge is empowering only to the extent that one knows what to do with it. Understanding complex concepts requires a strong foundation and supportive structures to build on. Children and adolescents learn by following adults' examples, which they use as a sort of scaffold while they build their independent ability (Vygotsky, 1980). A scaffold literally provides support to a structure while it is being built. This metaphor can apply to knowledge construction as well; students need scaffolding provided by adult knowledge and experience in order to incorporate the knowledge into their self.

The workbook did not provide enough scaffolding for the students to incorporate the knowledge about health and the future. Diet is not the only factor in obesity, but it is the only aspect of that disease that the lessons discuss. Furthermore, the workbook only



discusses what diet choices are available to the students, and identifies a few bad choices. This information does not necessarily enable students to change their diet choices or always differentiate good choices from bad choices. The risk is that the knowledge contained in the workbook did not empower students because they could not act on the knowledge.

One of the goals of this project was to get students to think and write about their own futures in regard to food, health, and the environment. The last three class lessons of the SFP workbook were devoted to the students writing a story about a moment ten years from now. This lesson did not teach them how to go about imagining the future as a reality, nor does it condense ten years' worth of choices into a culminating moment. It was left open-ended, so that the students could write about any moment having to do with food or health ten years from now. That one future moment, cooking a meal for example, could take place in a number of different contexts. It was up to the students to imagine it and then translate that idea into a story.

Students at this age are just beginning to develop the cognitive ability to perceive the abstract, but cannot yet think in systems-level abstractions (Piaget 2001; Bandura 1986). The ability to think abstractly develops roughly around the middle of puberty, in late adolescence (Piaget 2001; Bandura 1986). A true vision of their self in the future would require the ability to think systematically about the culmination of future choices: the classes they enroll in and the resulting grades, the college they attend, or the career path they take, the place they live, the friends they keep, family influence, and their lifestyle choices. Each of these choices will influence that one moment in the future.

While the student may be able to imagine cooking a meal in the future, the details of making it happen may not be so easy for them to imagine. The details provide the actual context and imply the ideal state, assuming that the student would prefer to imagine an ideal future rather than one to avoid. Forecasting is intended to provide one with foresight to avoid potential problems and/or encourage potential goals.

The ability to conceive the future is an unchallenged assumption at FRO.

Although adults can more readily conceive it as a tangible reality, this is not always easy to do. Understandably, if FRO thought that their clients were unable to conceive the future (or found it difficult to do), their work would be much less valuable because it would not be understood. Although I asked the team how students would learn to think about the future as a reality (forecast), the rest of the FRO team was confident that it would be simple to teach. The workbook emulated the YPW by having the students write about one moment ten years from now, which was previously successful, but was unsuccessful for this pilot audience. The suggested moment, making a meal, may have been the wrong choice of moment because it is not something the students currently do.

Furthermore, the students would have benefited from a more thorough introduction to the concept of forecasting. Each week could have been spent building toward the students being able to write about their own future. The workbook could have done so by introducing and reinforcing the necessary component concepts. These include: decisions lead to actions, actions have consequences, goals require several actions to be reached, people who make goals are more likely to take actions, you have more control as you get older but your actions matter today, etc.

### *Suggested Research*

A curriculum focused on health, nutrition, the environment, and the future for adolescents would benefit from research into five areas. First, the developmental abilities of the age group should be considered. Knowing whether the audience is capable of meeting the expectations of the curriculum should be verified. The process by which members of the age group think about the future is another key area. Knowing how adolescents imagine the future would inform any educator how to shape their lessons about that subject. What motivates the age group to make choices should also have been researched. If the goal of a curriculum is to help students make better choices, the educator should know what motivates their audience to do so. A robust knowledge of various ideas about health, specifically the fact that cultural norms figure into personal definitions of health, would also be important. Personal definitions of health are arguably more important than any dictionary definition. Cultural definitions are ingrained and shape the choices that people make. Finally, existing curricula that teach about these topics should have been reviewed in order to identify successful methods and models in order to adapt them to the curriculum under development.

### *Developmental Ability*

According to theories of cognitive development, the ability to imagine the future and believe that it will happen does not develop until puberty (Piaget 2001; Bandura 1986; Higgins 1987; Lanz and Rosnati 2002). However, children at this age are just beginning to develop the ability to think about the future. The future to children at this

age is still not necessarily tangible, and ten years is a long time to them. Middle schoolers are capable of thinking and writing in abstractions, but are not as capable as a high school student or young adult (Piaget 2001; Bandura 1986; Lanz and Rosnati 2002). Piaget claimed that children can only think in concrete terms and therefore cannot imagine something happening in ten years as a potential reality prior to the age of 12, while others have claimed the line is not so sharp (Piaget 2001; Bandura 1986). Regardless, the concept of the future is cognitively challenging for children and some adolescents. According to educational methodologists, the most successful curricula for teaching abstract ideas were those that employed high degrees of student-lead research, presentation, and role-playing (Kostova, 2008, p.73). Role-playing allows the students to empathize with people that are directly affected, and to embody the concepts, which makes abstract ideas “real.”

Although adults can more readily perceive the future as a tangible reality, this is not always easy to do. People are often uncertain about the future, and many have trouble describing their lives ten years from now in any detail. Not everyone believes that the future will be what they can imagine it to be for themselves or others. The ability to perceive the future as a delayed reality is understandably an unchallenged assumption at FRO. If the organization thought that their clients were unable to perceive the future, their work would be meaningless, and they would have no clients. Although I questioned how students would learn to forecast, the rest of the FRO team were confident that it would be simple to teach. The team members said that they would engage students' understanding of the consequences of choices and the processes of change, rather than try

to forecast “the future.” Unfortunately, the workbook did not consistently illustrate the consequences of choices, nor did it discuss the processes of change in any real detail.

### *Adolescents, the Future, and Setting Goals*

According to one body of research, adolescents think about the future in terms of the goals they set for themselves (Chang, Chen, Greenberger, Dooley, and Heckhausen 2006; Hill, Castellino, Lansford, Nowlin, Dodge, Bates, et al. 2004; Honora 2002; Jodl, Michael, Malanchuk, Eccles, Sameroff 2001; Lanz, Rosnati, Marta, Scabini 2001; Malmberg and Norrgard 1999; Nurmi, Liceanu, Liberska 1999). Adolescents report personal goals primarily related to their future occupations, education, and various kinds of social relationships (Chang et al. 2006; Hill et al. 2004; Honora 2002; Jodl et al. 2001; Lanz et al. 2001; Malmberg and Norrgard 1999; Nurmi et al. 1999). Adolescent goals are hierarchically arranged to achieve education first, followed by goals directed toward their occupations, families, and material success (Chang et al. 2006; Liberska 2002; McCabe and Barnett 2000; Nurmi 1994; Nurmi, Poole, Kalakoski 1994; Yowell 2000). Adolescents also express goals directed toward society, such as environmental health and peace (Knox, Funk, Elliot, and Bush 2000; Malmberg & Norrgard 1999; Nurmi et al. 1994).

There are several theories to explain how and why adolescents set goals for themselves, but I will focus on two classes of theory here. *Future Orientation Theory* (Nurmi 1991) and *Possible Selves* (Markus and Nurius 1986; Oyserman and Fryberg 2006) argue that goals are created by conceptualizing the “self” in a future state that is either desired or feared. Goal-directed behaviors are chosen to either progress toward or

away from the perceived future self. Oyserman and Fryberg (2006) argue that adolescents can imagine a range of possible future selves, and act on the behaviors they perceive to be consistent with their desired future self. Other theories postulate that people differentiate between the current and the ideal “self,” are motivated to achieve the ideal, and therefore make choices and behave in a way that will move the current self more toward the ideal self (*Control Theory* (Carver and Scheier 1990), *Social Cognitive Theory* (Bandura 1986), *Self-Discrepancy Theory* (Higgins 1987)). The main difference between these two classes of theory is that the former compare the current to the future, whereas the latter compares the current to the ideal.

Either line of reasoning would have been useful to develop a curriculum that aims to get adolescents to make health a personal goal. For FRO specifically, the *Future Orientation Theory* or the *Possible Selves* theory would have likely been preferable, due to its comparison of the current to the future self. The students could be directed to identify a future self that they would like to be, and then brainstorm what behaviors they would need to endorse or avoid in order to achieve that future self. Ultimately, the choices that adolescents make about their goals are not limited to their desire to achieve them.

Age, gender, ethnicity, socioeconomic status, single-sex vs. co-ed schooling, and family characteristics all influence the kinds of goals that adolescents make (Massey, Gebhardt, Garnefski 2008). Adolescents’ goal priorities evolve as they grow older; 10-14 year olds are most interested in maximizing their leisure time (Nurmi et al. 1994), while 15 year olds are most interested in achieving high-school education goals and 16-18 year

olds are most interested in achieving occupation, family, property, and higher-education goals (Lanz and Rosnati 2002). Parents' interest, encouragement, and expectations for their children are strongly correlated with the adolescent's level of belief that they can achieve their reported goals (Jodl et al. 2001; Marjoribanks 1991, 1993, 1994a, 1994b, 1997); results show that adolescents with parents who expect their children to achieve their goals are much more likely to do so.

In regard to their personal health, adolescents who are more focused on external goals (e.g. wealth, fame) are more likely to participate in risky behavior such as smoking, substance abuse, and risky sexual activity (Williams, Hedberg, and Deci 2000). These behaviors, especially sexual activity in girls, are more common amongst adolescents who have fewer or place less importance on educational or occupational goals (Schvaneveldt, Lee, Miller, and Berry 2001). Therefore, in a curriculum about health and nutrition, a certain amount of emphasis should be placed on making and attaining educational goals in order to discourage risky behavior.

#### *Use the Resources at Hand to Their Full Potential*

This process might have been more successful if the team had worked closer with the GG teacher to create the workbook's content. Judy is an experienced teacher, and could have likely provided valuable input on how to create a solid curriculum. Time was certainly a limiting factor, which may have precluded Judy from collaborating as much as would have been needed to create a robust curriculum in the proscribed timeframe.

However, the collaborative partnership was not employed to its full potential. FRO could have even used GG's existing curriculum and just added a ten week lesson on how to

think and write about the future.

GG uses tangible lessons in the garden to teach its students about the food systems, which is a complicated and somewhat abstract topic. Without exposure to a garden, a person may grow up never realizing exactly how food is grown, or what is required. Agriculture is not simple, and commercial agriculture is currently linked to the petro-chemical system. GG uses the growing process to talk about the current organic and commercial farming systems, and how these systems affect the students' health. Students can interact with food as it grows, watch it change, taste it, and even follow the trucks that transport it. Students can learn how choices about how the food is grown and transported can affect the system and the person who eats it.

#### *What Does "Health" Mean?*

The workbook asked the students to think about their food choices and how it would affect their future health. It then asked them to think about a moment ten years from now that is related to food or health. However, ten years may not be enough time to develop serious health risks for the majority of these students. The workbook discussed how some diseases are associated with poor diet, but it is doubtful that a significant percentage of the students would suffer from diabetes or heart disease in their early twenties. These diseases are linked with obesity, but do not often present until the late twenties to early thirties (Sirinvasan, 1996). It seems unlikely that even currently obese students would predict life-threatening diseases for themselves ten to twenty years from now. They may assume that they will change their eating habits later, but still in time to prevent the illnesses. They may not even think of themselves as being unhealthy.



The meaning of health is not universal. Cultural beliefs greatly influence people's understanding of what it means to be healthy and how one acquires disease and illness. Some cultures include an emphasis on balance in their understanding of health. In Chinese tradition, the energy of the body is in balance in a healthy person, and disease or illness is caused by blocks to the flow of that energy. Various organs are associated with emotions, for example, the spleen is associated with desire. Food and gender are also each associated with temperature (hot or cold). Therefore, an imbalance of energy, organ, emotion, diet, or family member can cause illness in the patient (Tom 2009). According to Bishop and Quah (1999), Chinese patients seeing Western physicians are more likely to describe their diseases using these concepts, rather than physical reasons for the disease. Cultures have their own traditions for treating illness and maintaining health. Medical professionals may disagree with personal or cultural traditions of health, but that does not negate their importance or validity (Inhorn 2006). Allowing students to discover their personal meaning of health would help them to make goals to achieve or maintain it.

Having a discussion or lesson about what is healthy and what is unhealthy would have been more useful to the students than a simple identification of an unhealthy food group. Health is certainly not limited to calories or nutritional value; a food may be physically unhealthy, but have a high social value. For example, birthday cake means more than the sum of its nutritional content. Likewise, these students' parents are not likely to be feeding them fast food only for its nutritional value. Teaching students that fast food is unhealthy (and therefore "bad") is also teaching the students that the parent that feeds it to the student is making a bad choice. This was not the intended

consequence, but one that should have been addressed. The team did consider this as a potential outcome, but did not address it in the workbook.

The workbook did not fully explore the meaning of health, which is a lost opportunity. The workbook introduction does state that health is not limited to what a person eats, but it then limits the scope of the lessons to food choices. Empirically, health is affected by emotion, and environment. The act of eating involves emotional and physical factors that interact with how much, what, and when one eats (Luomala, Siriex, and Tahir 2009). Some people eat as a reaction to emotional stress, others eat less (Robert-McComb 2001). What and how we choose to eat may be determined by time constraints, or energy level (Robert-McComb 2001). Parents that work more than one job to support their families will likely not have the time or energy to cook a healthy and balanced meal, and fast food is affordable, quickly prepared, and can be eaten on the go.

A pre-packaged salad bought at a supermarket could be defined both as healthy and as fast food. Vegetable chow mein can be fast food, but it can be low in calories and in fat. For busy families, frozen processed food can reduce the stress produced by the time and energy it takes to prepare fresh food and wash the cooking dishes. Likewise, the act of eating dinner may be the only time the family spends as a unit on a daily basis. Children benefit from the time their parents spend with them, and fast food can free up time that would have been spent preparing and cleaning to spend with the children.

Students would benefit from a robust understanding of the causal links between what they eat, how they eat, why they eat (e.g. stress), what it means to be healthy, and how eating and health are related. The FRO workbook only touches on this. A more in-

depth focus on this area would have met the FRO goal of empowering students to make healthy choices, without needing to qualify what is “good” food and what is “bad” food. The lessons for that construct would have followed the chain reaction that results directly from a choice or set of choices. For instance, hypothetical characters could have been developed, each of whom make different food and lifestyle choices, and the students would learn about how those characters grew up and what their health issues are as adults today. This would have illustrated how choices affect the future, and it would have served as an example for a story of the future as well. The lessons would focus more on what health is and how food affects it, rather than which foods affect health.

If these issues had been thoroughly addressed, the workbook could have been more effective. The lessons could have been framed in a context of inquiry that would teach the students to systematically analyze their own health: What does being healthy mean? What do I do that keeps me healthy now? What will I do when I control my own lifestyle? It could have been framed in a context of storytelling: following one family’s health through time, which would reveal connections between physical and mental health as well as nutrition.

#### *Adapt Existing Curricula, Stick to a Curriculum Theory*

The subjects of health and the future are each taught in classrooms throughout the world (Gidley and Inayatullah 2002). Not surprisingly, there are published curricula available to teachers that focus on a wide range of aspects on these topics. “Teaching Green” is a series of lessons designed for middle school students, each of which teach a different environmental aspect (e.g. “Teaching about food systems” and “How big is my

ecological footprint”) (Grant and Littlejohn 2009). “Planet Health” focuses on several aspects of a middle schooler’s physical health, including “Figuring out fat” and “Be active now for a healthy heart later” (Carter, Wiecha, Peterson, Gortmaker 2000).

There is a body of research which suggests that students who feel they have little or no power in a school setting are most likely to disengage and even reject education altogether (Cook-Sather 2002; Hemmings 2001; Kohl 1994; Willis 2003). Further studies show that educational programs that center on student participation and empowerment are correlated with engaged students (Cook-Sather 2002; Hemmings 2000; McQuillan 2005). Although specific literature was never cited during team meetings, the knowledge was expressed orally. The team intended to create a curriculum that would engage students in participatory and empowerment activities.

Looking to existing curricula and curriculum-building information would be beneficial to anyone building a new curriculum. There are dozens of models of instruction: *The Direct Instruction Model*, *The Concept Attainment Model*, *The Concept Development Model*, *The Problem-Centered Inquiry Model*, *The Synectics Model*, *The Cause-and-Effect Model*, *The Socratic Seminar Model*, *the Resolution-of-Conflict Model* are just a few (Estes, Gunter, Mintz 2007). Any one of these could have provided guidelines for how to shape a lesson plan. For example, using the *Cause and Effect Model*, the teacher identifies a topic, then asks the students to identify (with supporting arguments) causes, effects, prior causes, subsequent effects, conclusions, and generalizations (Estes et al. 2007). Each lesson can then be compared to the model’s criteria to ensure that it meets a set standard.

Likewise, there are endless volumes that espouse the “best” way to build a curriculum, from holistic, inter-disciplinary and artistic learning (Leithwood 2006; Miller 2007; McKernan 2008; McNiel 2006; Slattery 2006) to teach-to-the-test strictly standards-based methods (Casey 2008; Glass 2005; Hale 2008; Posner 2006). These models set tone, as well as goals and objectives of the curriculum. For example, McNiel (2006) describes the purpose of a “Humanist Curriculum” is to “provide each learner with intrinsically rewarding experiences that contribute to personal liberation and development” (McNiel 2006:5). The teacher’s role is to “nurture emotions while continuing to function as a resource and facilitator” (McNiel 2006:5). He posits that curriculum content is influenced by society, the teaching institution, requirements of instructions, and the teacher’s personal beliefs (McNiel 2006:90). The author then describes several models that a teacher could employ to determine the content of the curriculum, including instructions on how to implement and evaluate efficacy (McNiel 2006:96-112). According to educational methodologists, the most successful curricula for teaching abstract ideas were those that employed high degrees of student-lead research, presentation, and role-playing (Kostova, 2008, p.73). Role-playing allows the students to empathize with people that are directly affected, and to embody the concepts, which makes abstract ideas “real.”

Other resources are expanded annotated bibliographies that list resources and existing lessons for a particular subject. There are also books that are compilations of case studies on a particular subject. For instance, Carmen Stewart (2002) reported that her hands-on “Re-Imagine Your Neighborhood” workshop with Australian adolescents was

successful in empowering the students to become active participants in shaping the future of their neighborhood. These existing lessons would be useful to review, emulate, or incorporate to a curriculum under development. Potentially, FRO could have saved time and resources by using pre-existing materials and adapting them for their specific goals. However, they believed that their YPW was sufficient at the project's inception, so they did not explore alternatives beforehand.

### **Personal Lessons Learned**

As applied anthropologists, we walk a gray line between completing contracted tasks and delivering a set of conclusions or recommendations that meet standards of significance, accuracy, and quality set by our peers and predecessors. We must adhere to expectations and operate within an organization's limitations, but we must also assert what we think is critical to discuss or investigate. Organizational factors exerted strong influence over the project, disabling the normal evaluation and improvement process that a project should undergo in order to be successful. Once a product is generated, it is typically edited and re-edited in a feedback loop until it is as good as it can be. The editing process reveals a product's limitations, strengths, and flaws. The workbook's language was reviewed and edited during the SFP, but the content, goals, and outcomes were not. The team did not look at these critical aspects, which prevented the product from meeting its potential. If the content and goals were reviewed at any point, it may have become clear that the workbook needed different lessons or more robust ones. If the SFP project goals would have been compared to the lessons that were chosen, these

lessons would likely have been cut. Unfortunately, doing so was never discussed past the third week of the project.

Applying theoretical knowledge to an applied context provides a foundation for understanding the processes and outcomes experienced in that context. Without a theoretical framework, one is only bringing their own experience to the table, which may be insufficient and narrow. When presented with a question, one can either try to answer it with new research or use an established theory (or method). The most efficient response in an applied context is usually to look to existing theories, at least to establish a working hypothesis. For the purposes of this report, Hackman's Action Model for Group Task Performance reveals a theoretical framework for understanding the group dynamics that influenced the project outcome (Harrison 2005). Three processes are critical to effective group performance according to this model (Harrison 2005, p61):

- Exertion of enough joint effort to accomplish tasks at acceptable levels of performance
- Bringing adequate skills and knowledge to bear on the work
- Using task performance strategies that fit the work and the cultural and organizational setting in which the work is done

The FRO team did not exert joint effort consistently toward any specific goal. Everyone gave verbal input toward the lesson plan ideas, but no one stepped forward to take responsibility for parts of the production process. The project was described as a collaborative effort, but the team lacked direction. There may have been adequate skills

among the team members to complete a curriculum, but there was no structure based in curricular theory to ensure a successful one. This was not mitigated by research, although this could have been a task assigned to any team member.

After reviewing the stated project goals, I do not believe that the workbook gave GG or the students the ability to forecast, and the method for teaching students how their choices affect their future, and how to think systematically about it, could be vastly improved. For instance, there are many issues that I felt were never properly addressed during the production process. In fact, the fundamental premises of the lessons may have been inaccurate. When I attempted to discuss this in the course of one meeting, there was a general consensus that there was no need to question the premises. This was at a point when my input was still not regarded as equal to the rest. I do not know if they were discussed and agreed upon prior to my participation in the group, but it was clear that the group was not interested in questioning the goals or assumptions of the project at the time. It is equally likely that the group chose to meet the project deadline rather than reverting back to a planning phase where goals and assumptions would be questioned.

Throughout the course of this project, I was concerned that the underlying goal of the workbook was to make students change their eating behaviors, but the means for this change was not really understood by the team. Children in low-income families have little, if any, choice in what they can eat. I grew up in a blue-collar family that struggled constantly to put any food on the table. My food choices as a 12 year old were limited to what was available to eat. I imagine that if I were to have participated in this curriculum at that age, I would have felt disempowered by the information presented, and felt



helpless to change my circumstances. I never verbalized it in this manner at the time, but rather tried to ask questions about the intrinsic messages contained in the lessons, which were ultimately dismissed as unnecessary questions by the team. Certainly this is a bias on my part, but it begs the question: Was the team sensitive enough to the socioeconomic factors and perspectives in this new audience?

Coming from this perspective, I generated language for the lesson plans that would allow students to talk about their choices, but was concerned that the team wanted to qualify what was a good or “right” choice, and what was a wrong or “bad” choice. It is possible that the students in the project's intended audience eat fast food frequently. If the curriculum qualifies fast food as being “bad,” then it is effectively teaching the students that their parents make poor choices.

Due to these concerns, I posed this question in the team meeting:

Candice: What are we telling the students to do when we talk about their limited food choices and the unhealthy aspects of fast food? Are we telling them to just think about it?

Victor: We need to emphasize that there are lots of choices, and that everyone is different without qualifying what is good and what is bad. We're asking the students to think about what their choices are. The Fast Food Debate will get them to form their own opinions.

Candice: So, we're asking them to make informed choices, and be active agents in their food choices?

Victor: We want them to be aware of the fact that their food choices are not the only choices out there. We should say, “some of us shop at Whole Foods, some of us shop at the Chinese market, some of us shop at the farmer's market.” Let them decide if they want to assign judgment to what is good or bad.

The workbook's evaluative questions ask students to reflect upon their current

lifestyles and presume that they or their parents are making poor choices. It makes me wonder, if they do evaluate their current eating habits and believe them to be bad, what does that imply about their parents? Furthermore, this workbook does not provide an example of a person with a healthy lifestyle. What does that mean? The workbook does not define “healthy” in any detail; it only identifies foods that are unhealthy. Eating fast food once a year would not lead to diabetes, but it was identified as an unhealthy food. Likewise, processed foods are identified as less healthy than fresh foods, but is a pre-packaged sliced apple any less healthy than a whole apple? In the second draft of the workbook, I posed two questions in the introduction: “Do I choose what I eat?” and “Can I make choices that will keep me healthy and happy in the future?” The team requested that I add “how” to the beginning of each question, because they assumed that the answer to both of these questions is yes. I remain unconvinced.

Evaluating products and project outcomes would help FRO to identify the aspects of their organizational culture that either hinder or enhance success. One reason that anthropologists have been successful partnering with organizations is that we lend an outsider’s perspective, which can reveal hidden structures and tendencies. Sometimes organizations need to be given permission to resist a tendency or to step outside the normal structure. In doing so, they avoid repeating mistakes or making new ones.

It is the business of the anthropologist to assert the benefits of doing so, despite passive or active resistance. Resources such as Harrison’s “Diagnosing Organizations” (2005), can inform anthropologists how to identify structures and influencing factors within an organization that will affect a project outcome. These structures and factors

reveal the forces exerted on the members of a group, providing a context for understanding individual and group behavior. An organization will likely be impressed with an outsider's ability to identify factors and forces, which will make other assertions made by the anthropologist more likely to be heeded. Equally important, the applied anthropologist must trust in their ability to do so and be confident that their contributions will be fruitful. In order to strive toward success, the applied anthropologist should evaluate their own performance daily and calibrate their efforts to ensure that their client is receiving the benefits of the field. Otherwise, the applied anthropologist will not have fully contributed to the project they have been contracted for.

## **Conclusion**

The workbook was not what the SFP intended, but it could be redesigned and improved to meet the original intentions. The goals and assumptions would need to be reviewed and analyzed. A true curriculum that employed a specific instructional method would vastly improve what exists. Likewise, a thorough investigation into the subjects and their corresponding appropriateness for the intended audience should be performed. FRO may never do so, but any organization looking to create a curriculum would benefit by doing so.

Every organization should consider its ability to produce an effective product before it decides to proceed. They should determine what human capital is necessary to do so, and what resources they would need. Any time an organization decides to do something new, time for research is absolutely necessary, and they should avoid re-

inventing the wheel, unless that is the stated goal of the project. Although deadlines can help ensure that the project is completed in a timely manner, sometimes the outcome of a short deadline is a weak product. When attempting something new, it is important for organizations to have somewhat flexible deadlines in order to make time for refining.

The outcomes of this project can direct all applied anthropologists to: be mindful of your defined role within the project but assert your expertise, taking time to challenge assumptions will always benefit the product/project, and lack of experience can be substituted by thoughtful research. For any applied anthropologist, the tension between what the organization wants and what the anthropologist perceives to be important may often be at odds. Maintaining one's professional integrity while ensuring the client's satisfaction is not always an easy balance. When the organizational structures imposed on a project prevent its success, the practitioner must do their best to make the most of the situation. Had I known beforehand or seen these structures during the project, I might have been able to call them to the attention of the team and find a way to bend or avoid the structures to improve the product. However, given my unclear role within the project, this may not have succeeded. It is important for all applied anthropologists to define their role and expertise within any project, assert the need to question assumptions, and use emic and etic perspectives to our advantage in order to develop and implement projects that are sensitive to stakeholder goals.

### **Time Line of Activities**

- **September 2008:**
  - Accepted internship at FRO
  - Brainstorm lesson plans
- **October 2008:**
  - Generate curriculum
  - Integrate curriculum into workbook
- **November 2008:**
  - Complete workbook
- **December 2008:**
  - Literature review
- **January 2009:**
  - Begin writing Project Report
  - Curriculum implemented (FRO employees only)
- **February-March 2009**
  - First draft of Project Report
- **April 2009**
  - Second draft

- Literature review
- May-July 2009
  - Meet with committee chair, discuss direction and limitations
  - Third and fourth drafts
- August 2009
  - Fifth draft – content edits
- September 2009
  - Sixth draft – syntax edits
  - Seventh draft
  - Committee chair verbal thumbs up
  - Second committee advisor requested additional research and literature review
- October 2009
  - Literature review on educational theory and methods
- November 2009
  - Eighth draft editing for tone
- December 2009
  - Obtained student evaluation responses from FRO

- Add methods and results sections
- January 2010
  - Ninth draft completed and submitted for review
- February 2010
  - Syntax edits made
  - Tenth draft completed and submitted for review
- March 2010
  - Reorganized, content edited and refined
- April 2010
  - Eleventh draft completed and submitted for review
  - Reorganized, content edited and refined further
  - Submitted draft for approval
- May 2010
  - Final edits completed
  - Final draft approved
  - Submitted final report to Graduate Studies Coordinator with signed approvals

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