

**Face of Change  
Initial Design Document  
Digital Wkshop  
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Submitted by Mary Beth Hermans**

**Introduction**

This design document introduces the Face of Change, a transmedia education project being developed by Digital Wkshop and the Maxwell Museum of Anthropology. The project is designed to promote health, wellness, and cultural awareness of and for people living in New Mexico. The transmedia approach will combine a multiplatform strategy based on a documentary video, Internet site and print publication, each incorporating content not found in the other forms. Thus the traditional first screen (video/television) content is enhanced with third screen (Internet) and print media.

The transmedia approach to learning is designed to encompass multiple intelligence styles while providing various accessible media for learners. It is developed to promote active learning in contrast to procedural learning. Through self directed choices and activities, learners will construct their own path to understanding.

**Theoretical Framework**

It is the purpose of the Faces of Change project to accomplish transformative learning by the participants. Mezirow's transformative learning theory suggests that individuals can

evolve through a process of critical reflection about “disorienting dilemmas” leading to reflective change in belief, attitude, and opinions. “Learning is understood as the process of using a prior interpretation to construe a new or a revised interpretation of the meaning of one’s experience in order to guide future actions (Mezirow, 1996, cited in Merriam & Caffarella, 1999). The Faces of Change project builds on learners’ prior knowledge, presents learning tools, and scaffolds knowledge creation toward transformative experience.

The project is designed as a constructivist learning environment based on activity theory: a philosophical framework which posits that conscious learning emerges from activity (performance), not as a precursor to it. Activity theory emphasizes both the historical development of ideas as well as the active and constructive role of humans, it is concerned with the interaction of human activity and thinking within a relevant environmental context (Jonassen & Rohrer-Murphy, 1999).

Constructivist theory proposes that knowledge is constructed by learners as they attempt to make sense of their experiences (Driscoll, 2005). Learners will construct meaning as they move through the educational experience. The project presents a sociocultural approach which considers that human mental functioning is situated in social, interactional, cultural, and historical context.

Cultural historical theory recognizes that traditions of a society implies values, norms, and discourses, as well as the perspectives and practices passed from one generation to the next. Individual attitudes and values are influenced and shaped by the environment in which they are situated. Vygotsky (1978) named the gap between learning and development the zone of proximal development, the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance or in collaboration with more capable peers. In order for individuals to achieve a new developmental level, learning must be scaffolded or bridged.

Within this theoretical framework, the learning environment has been designed based on the Wiscom Model (Gunawardena, et. al., 2006), which emphasizes the development of “wise communities” where knowledge innovation takes place through the mentoring of social support. The design for the learning process consists of five iterative phases: the presentation of a case, problem, or issue; the initial exploration of participant’s meaning schemes to address the challenge; presentation of multiple perspectives to expand learner’s knowledge of the challenge topic; engagement in critical self-reflection; and preservation of new meanings among community members. While the WISCOM model has been described and tested as a distance education model, it is believed that it can also be successful in a transmedia setting where online interaction is integral to learning.

## **Target Audience**

The Face of Change project targets middle school students and their parents living in the state of New Mexico. Students are expected to be ten to twelve years of age and enrolled in the Maxwell Museums summer camp program. Secondary learners are teachers, their students and health professionals. The project will be offered to Albuquerque Public School teachers after an initial pilot implementation at the summer camp.

## **Pre-Requisite Knowledge**

A basic knowledge of nutrition and diet and how both relate to health is desirable. Learners should also have developed a concept of culture, and be familiar with cultures that have inhabited New Mexico.

## **Technical Pre-Requisites**

Learners should have basic knowledge of computer operation and have access to a computer, either at home or at school. Confidence in using computer mediated communication is desired.

## **Background**

### Health of New Mexicans

Obesity has been rising at alarming rates during the past twenty years. Nationally, the prevalence of obesity in adults has risen from 12.0% in 1991 to 17 % in 1998, and accounts for 9.4% of U.S. health care expenditures. Obesity has increased in every state, in both sexes and across all age groups, races, educational level (Mokdad, et. al., 1991, 2001). According to the Center for Disease Control and Prevention, obesity related costs in the U.S. totaled seventy five billion dollars in 2003.

The prevalence of obesity in New Mexico has paralleled the national trend- under 10% in 1991, 10-14% in 1998, and currently reported at 20-24%. Current data release by the New Mexico Department of Health identifies 57% adults, 24% high school age children and 22% of low income children between the ages of 2 and five as obese/overweight (Behavioral Risk Factor Surveillance, 2005).

Body Mass Index, is used to determine whether a person is underweight, normal, or overweight/obese. Body Mass Index (BMI) is a number calculated from a person's weight in relation to their height. A person is considered overweight if their weight is twenty five pounds over their Body Mass Index, obese if their weight is thirty pounds over.

Obesity contributes to a number of chronic health conditions including hypertension, osteoarthritis, coronary heart disease, stroke, and diabetes. Diabetes is actually a group of diseases indicated by high levels of blood glucose resulting in unstable production or action of insulin. Diabetes can result in blindness, kidney failure and lower limb amputations.

The prevalence of diagnosed diabetes among US adults has increased by 40% in 10 years from 4.9% in 1990 to 6.9% in 1999. If this trend continues it is estimated that the number of individuals with diagnosed diabetes will increase by 165% by 2050, with the fastest increases occurring in older and minority populations (Narayan, et al. 2003).

Nationally the cost of health care associated with diabetes in 1997 was an estimated \$98 billion (Mokdad, et. al. 2001) and increased to \$174 billion in 2007. These figures do not include indirect costs such as disability, work loss or premature mortality. Diabetes cost the state of New Mexico \$1,218,356,000 in 2007.

Lifetime risk for diabetes is greater for minorities and life expectancy for individuals with diabetes decreases with the age of onset. A child diagnosed with diabetes at age 10 is estimated to lose 19 life years, if that child is African American life years lost is estimated to be 22 years. (Narayan et. al., 2003).

Factors that contribute to obesity and diabetes include the physical and social

environments of communities and organizations, the policies, practices and norms within social and work settings, and access to information (New Mexico Department of Health, 2006). It is reported that during the past thirty years social and physical environments have become more conducive to sedentary lifestyles and unhealthy food and beverage choices than they are to healthier alternatives. The influences of the physical or built environment and political, cultural and social environments on unhealthy weight are considerable. Research has suggested that when environmental factors are modified to support healthy behaviors in individuals, more individuals engage in those behaviors (New Mexico Department of Health, 2006).

### The Food Gap

A food gap is a way of defining access to food and its implications for health and wellbeing. Or it can be financial: the difference between having money for food and not having enough. Either way, the food gap is what keeps people from eating healthy foods like fresh vegetables and fruits. The greater the distance-either financial or spatial-between community members and food, then the closer those community members are to hunger, food insecurity, and/or a less-healthy diet (Farm to Table, 2006)

Farmer and food system critic Denis Brewster uses the term “distancing” to describe a key feature of the modern food system. Distancing is defined as the gap between food consumer and food producer, a gap so large that children believe food comes from supermarkets. According to Kneen (1995) “We are well along the way of completely

separating—distancing—human nutrition from the growing of food, interposing vast and expensive industrial processes between human beings and the very simple basis of their existence”.

### Traditional Foods

“When you lose traditional foods, you lose culture and identity.”

(Farm to Table 2006)

A series of focus groups conducted by Food to Table for the New Mexico Department of Health described the food gap and its health effects reported by adults living in rural areas of New Mexico. Issues with transportation, cost of foods and availability of foods were identified as barriers to good health. The lack of access to traditional foods was also cited as contributing to declining health and wellbeing.

Traditional dietary patterns resistant to Western disease can be found in North America, and they are characterized by both high carbohydrate, low fat diets (for example the corn and bean diets characteristic of culture groups from the Southwest to the Northeast) and high protein, low carbohydrate diets (for example, the animal-based Northern Cree and Inuit diets) (Milburn, 2004).

Whereas traditional diets are considered nutrient rich and calorie limited, modern western diets are most often described as nutrient limited and calorie rich. The reversal of the traditional dietary pattern is identified as a major contributor to the poor health outcomes



found in the United States, specifically the epidemic growth of obesity and diabetes.

The Face of Change project aligns with The New Mexico Plan to Promote Healthier Weight, a project of the New Mexico Department of Health. It is the intent of the project to educate children and their parents with a goal of enjoying optimal health, building on the strengths of New Mexico traditional communities and cultures.

Media and educational activities can inform, motivate and enable individuals and policymakers to make decisions that influence their health and the health of others (New Mexico Plan to Promote Healthier Weight, 2006). The Face of change project works to accomplish this goal with a transmedia approach to education and action.

### **Cultural Considerations**

The project has relevance in a cross-cultural setting as it concerns traditional foodways of New Mexico. New Mexico is a tri-culture state historically inhabited by Native American, Hispanic and Anglo populations. Health issues related to obesity affect all the populations of New Mexico, though minority groups are disproportionally represented. Knowledge of traditional foodways will be of benefit to all nationalities living in the state.

### **Guiding Questions:**

- What are the current health challenges to people in New Mexico?

- How can understanding the cultures of New Mexico promote health and wellbeing?
- What are traditional foods and how can their consumption prevent obesity and diabetes?
- What steps can individuals and communities take to improve their health and access to healthy foods?

**Content:**

The Faces of Change is a transmedia education project designed as a learning module that combines a documentary video, interactive website and print publication toward the vision of healthy families in New Mexico.

Documentary Video

The Faces of Change video will profile local community members who are leading the charge to change the unhealthy effects of Western diet through education and community projects both cultural and agricultural. The twenty minute documentary will include interviews with:

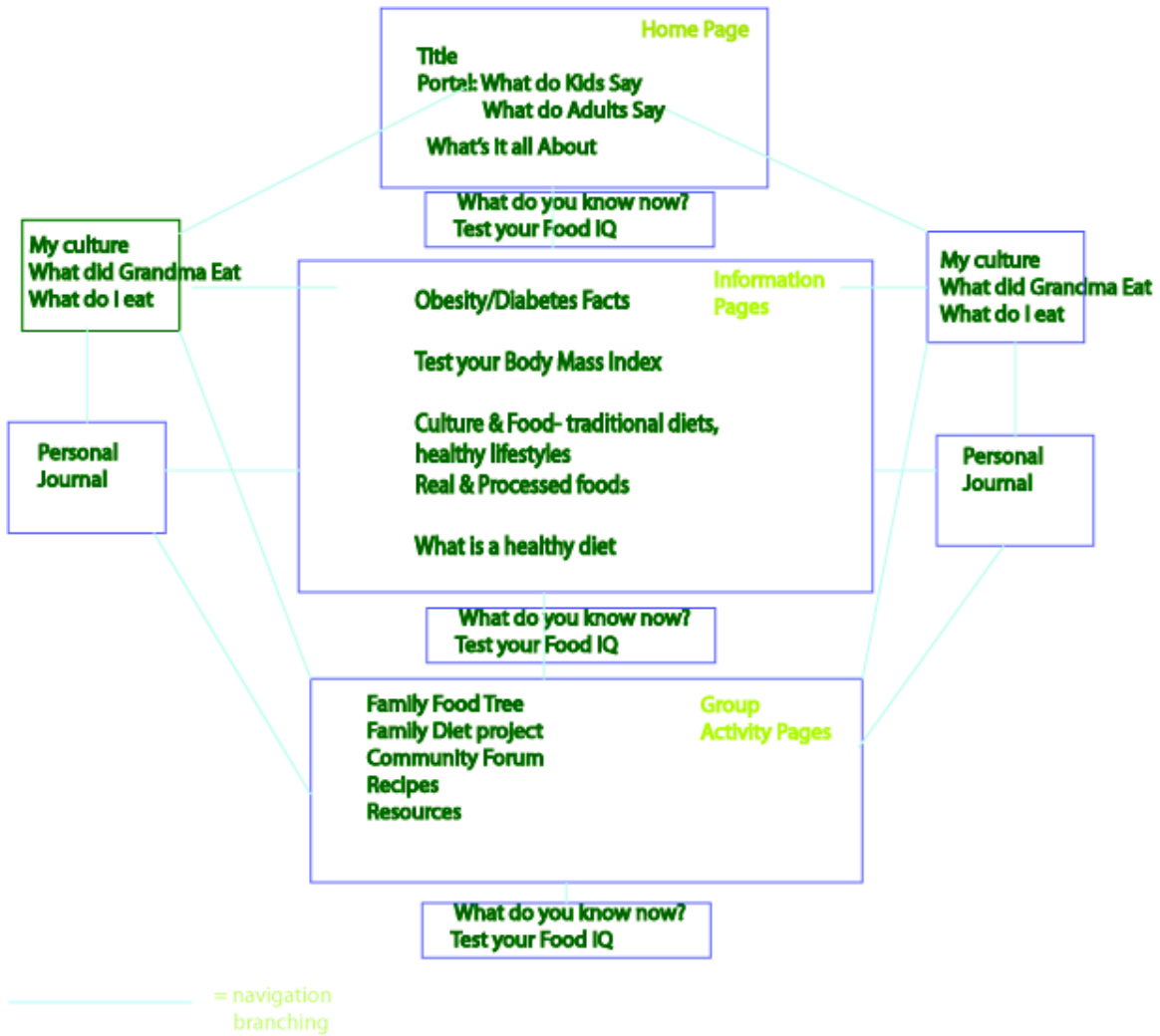
- Children and adults who will describe their knowledge of healthy foods.
- Anthropologists who will provide historical background in traditional foodways.
- Health professionals who will describe the obesity/diabetes challenge.
- Community members who will describe their traditional diet.

- Community members who are working to reverse the effects of obesity and diabetes.
- Profiles of projects such as community gardens that join neighbors and healthy food.

#### Internet site

The interactive site will allow learners to navigate within/among the site resources, building knowledge and making connections with culture, diet, and health. A constructivist learning environment, users will structure individuals paths to knowledge in each area. A formative evaluation instrument will begin the interactive activity and evaluative instruments that measure learning will be presented between each major section of the site. Information described in the background section of the design document will be contained in the online learning environment. Students will be provided with computers and access to the site at summer camp.

Site Map:



## Print Publication and Food Sampling

A Place at Mother Earth's Table: Wild Plants and Products of the Rio Grande Region

The print publication will be a reference guide to traditional plants that were harvested by prehistoric people of the southwest. The booklet will be organized in four sections:

1. Introduction: cultural significance, where they are found, identification accuracy

2. Plants: common/traditional scientific/family name, illustrations, recipes/activities
3. Wild Plants and Wellness: diabetes explanation and prevention
4. Additional Reading/Sources/Websites

Foods included in the publication will be made available for students to identify and sample.

### **Instructional Objectives and Learning Outcomes**

The overarching goal of the Face of Change is to engage students in a process of knowledge building and reflection leading to change in dietary habits.

Objectives:

1. Case Based Problem/Issue: Apply critical thinking and problem solving skills to address a complex, dynamic, and ill-structured problem.
  - a. Recognize the current state of health of New Mexicans as it relates to obesity and diabetes.
  - b. Identify the trends of obesity and diabetes in New Mexico.
  - c. Identify the barriers to healthy foods in New Mexico.
  - d. Recognize the cultural significance of food.
  
2. Initial Exploration: Expand individual knowledge base of healthy weight and foods that contribute to well being.
  - a. Describe nutritional rich and calorie limited foods.
  - b. Describe nutritional limited and calorie rich foods.
  - c. Explain the Body Mass Index.
  - d. Identify individual weight along the Body Mass Index.
  
3. Perspectives
  - a. Recognize the health effects of traditional New Mexican diets.
  - b. Identify ways that individuals can act to create change.
  - c. Identify traditional cultures of New Mexico and their use of foods.

- d. Recognize the cultural significance of traditional foods.
  - e. Identify wild plants that contribute to health and wellbeing.
4. Reflection
- a. Identify ways that a person can maintain healthy weight.
  - b. Discriminate between healthy and unhealthy foods.
  - c. Compose a diet based on traditional foods and wild plants.
  - d. Discuss the influence of culture on eating and health.
5. Negotiation/Preservation
- a. Write/Design a family food tree and post it to the website.
  - b. Examine the learning experience through a reflection journal.
  - c. Appraise the value of resources and activities of the project.

### **Learner Support**

A “buddy system” will be encouraged through the pairing of participants at the Maxwell Museum summer camp. All students will be encouraged to participate in face to face discussions and online activities. The system is designed to build a community of practice among learners. Instructors and participants will contribute to the community forum of the Internet site and lead in-class discussion of topics during summer camp hours.

### **Evaluation**

A formative appraisal of learner’s knowledge will be presented prior to the start of the module in order to analyse student knowledge as it pertains to health, nutrition and culture. The Internet site will have three evaluative components that are to be filled out before advancing to the next level. The negotiation/preservation phase of the model will

act as the summative evaluation of students' experience. This phase includes the writing of a personal reflection journal and appraisal of the resources and activities of the experience.

<b>Time Frame</b>	<b>Activity</b>	<b>Resources</b>	<b>Notes</b>
Day 1 2.5 hours	Presentation of the Case	Formative Evaluation Instrument Classroom Internet Site	Students will record their prior knowledge of subject, discuss the learning challenge, and become familiar with the topics of obesity/diabetes, food gap, culture and food. Students will be encouraged to login to the site in the evening with their parents each day.
Day 2 2.5 hours	Initial Exploration	Classroom Internet site	Students will discuss their understanding of the learning challenge,
Day 3	Perspectives	Face of Change Video A Place at Mother Earth's Table publication Food sampling	Students will watch and discuss the video. Students will read the publication and sample foods made from wild plants of the Rio Grande region.
Day 3 & 4	Reflection	Internet site	Students will work at home on a personal journal and compose a healthy diet plan.

Day 5	Negotiation/Preservation	Internet site Classroom	Students will design a family food tree and post it to the community forum. Instructor and students will contribute to the community forum. Instructor. Students will complete appraisal instruments and discuss activities and suggest ways to improve the module.
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