

Tools Front End Analysis

John Barksdale, Melissa Brown, Kim Cenedella,
Jennifer Herrod, Wynne Whyman, Liz Woessner
IT5610: Principles for Designing Multimedia
April 27, 2000

1. Project Description

The Nurse Home Visitation (NHV) Program is a program of the National Center for Children, Families and Communities (NCCFC). The program consists of prenatal and early childhood home visits by nurses trained in a preventive intervention model. The nurses receive extensive training divided into three separate sessions. The first training session (Training I) consists of an introduction to the preventive intervention model and training on tools the nurses will use during their home visits. The second training session (Training II) occurs four months later and addresses infant care. The third training session (Training III) occurs one year later and addresses toddler care.

One of the tools is the A-S-K-S model. The nurses use this model to assess the mothers during the visits. The four assessments the nurses make are on the mother's **A**ttitude, **S**kills, **K**nowledge, and **S**ituational Supports. The nurse can build on the strengths the mother demonstrates in one or more of the four areas, while recognizing the limitations in the other areas. The A-S-K-S model helps the nurse to identify the factors influencing the mother, and the nurse is therefore better equipped to work with the mother.

This project will create an online instructional module to help the nurses learn the A-S-K-S model. This module will be available to the nurses after Training I is complete. It will allow them to refresh and enhance their skills in the model or retrain themselves on the material. In addition, the training module for the A-S-K-S model will be used as a template to create additional training modules for the other tools.

2. Needs Analysis

One of the primary challenges that the Kempe Center faces is the need to disseminate and replicate the NHV Program. The demand for training is apparent as shown by the significant increase in trainee registration numbers.

There is not currently an intervention in place that will allow the nurses to practice the skills and theory models that are introduced to them in Training I. The nurses leave Training I with a general sense of "feeling overwhelmed" as they return to their home offices.

The solution that the Tools Team will present is a skill development tutorial that nurses can utilize after Training I to enhance their knowledge of and practice that skill. This tutorial will be web-based and easily accessed via the Internet. We will attempt to replicate the look and feel of web sites currently used and in development by Kempe and the NHV Program.

The project will be successful if, at minimum, a prototype is developed for one tool that can later be implemented for the other tools. This training will increase the nurses' ability to access information on the program protocols. It will be a more cost-effective way to disseminate training and perhaps shorten the duration of Training I.

3. Audience Analysis

The participants for this project will primarily be adult women, with the majority in their 30s and 40s. There will be a minority of participants in their 20s and in the 50 + range. Participants will all be registered nurses. There will be no health industry para-professionals, social or caseworkers. The educational level of the audience varies from those nurses that earned their RN designation through diploma programs, associate degrees, Bachelor of Science degrees, and those that have masters degrees. All of these nurses will have earned a high school diploma and will have taken some continuing education courses.

The audience will have no familiarity with the clinical tools that will be used, and the level of nursing experience within this audience group will be varied. The motivation of the participants is high, because they will be learning to do their job more effectively. Most nurses in the program are very passionate about training, because they are passionate about their jobs, and about helping others. They are motivated by the overall impact the program has on children and families. Indications from past training feedback state that the nurses value the training and believe it necessary to do their job.

Many of the nurses will not have experience with multi-media instruction. Approximately 74% of nurses surveyed in a recent Training I class stated they have access to the web and e-mail; therefore some of the nurses will have a beginning level of computer literacy.

Kempe offers formal introductory training sessions to approximately 250 nurses every year, and these sessions are currently held in the Denver area. Follow up training sessions, which are held regionally, are offered every year to around 50 people. There are no other current interventions being used to support newly trained nurses; i.e. mentorship, on-the-job-training (OJT), or supervisor training.

There are presently no specific rewards or incentives for participation in the training programs, however, this training qualifies for Continuing Education Credits and provides the nurses with the internal satisfaction of knowing they are performing their job functions well. True feedback in terms of rewards will come from the mothers the nurses will work with.

The target audience for this project will be all those that are currently working in the NHV Program. The number that will potentially use this training could rise into the thousands.

4. Organizational Analysis

The mission statement for the NCCFC is, “to strengthen the health of children, their families and communities by carrying out evaluation, service, research, and educational activities.” The current goals of the NHV Program are to:

- Replicate a nurse home visitor model that has been researched and scientifically proven to:
 - Promote healthy maternal and child functioning early in life.
 - Reduce the likelihood that children eventually will develop serious antisocial behavior.
- Disseminate the training program broadly.

The Kempe Center has a website, and a website for the NHV Program is in the development stages. The NHV Program website is critical to the success of this project because it will provide a consistent location for accessing the training module. We are under the assumption that a site will be available to house the product in time for its release.

There are five “Nurse Educators” on staff at the Kempe Center, including the director of the program. These nurse educators provide the NHV Program training across the country. The role of the Nurse Educators during this project will be to review the case studies and provide feedback on them. They may also support the product development through formative evaluation during product development. In addition, they may be able to recruit a few nurse trainees to pilot the product. There has been no effort to formally recruit volunteers among the Nurse Educators for this project and they have limited time to volunteer to projects due to their busy traveling schedules. However, they are all eager to hear about what’s happening with the project and have a vested interest in the final result. Therefore, we can safely assume that they will have some involvement in providing feedback. One of the Nurse Educators has positive personal experiences with online education. No concern has been explicitly expressed regarding online training. But, the nurses are a little reluctant in general about teaching nursing in an online environment.

The sites that decide to adopt the NHV Program and send nurses to the training must have at least one computer on site. This computer can be used to access the online training modules.

At this time the work of the Kempe Center is focused on the dissemination and replication of the NHV Program in community and public health practice. One of the goals of the NHV Program is to disseminate the training program broadly. This project will help to achieve that goal, and is visible and significant, specifically to the nurse educators and the nurses. The training sessions are intensive and the nurses are saturated with content. Providing early exposure and unlimited access to the training modules for the tools would be a substantial contribution to the NHV Program.

The scheduled sessions for Training I, II, and III that will occur during this project could affect the development of the training module. The nurse educators will act as the Subject Matter

Experts (SMEs) for the project. Because they have many training sessions scheduled over the next few months, they may be out of town conducting training and unavailable.

5. Cognitive Task Analysis

During the client interview, it was established that the client is looking for specific outcomes with this training. The training module resulting from this project will be designed to help nurses build the skills that are necessary to effectively work with the mothers they are assigned.

The training module will focus on the A-S-K-S model. The client expects that upon completion of the training module, the nurses will be able to:

1. identify the model. In other words, the nurses will be able to recall what each of the letters in the A.S.K.S. model stands for; and
2. know how to use the model during interactions with the mother.

These are objectives which require the nurse to engage in problem solving and decision making and the nurses must also be able to apply these principles to situations that are not stable. After analyzing the tasks required by the nurses, we decided that a cognitive task analysis is more appropriate than a behavioral task analysis because of the fact that we are dealing with cognitive objectives rather than observable behaviors.

A GOMS model provides a description of the procedures required for accomplishing a task. The model is an explicit representation of the most important features of a task and the knowledge required by the user to accomplish the task. We have performed a GOMS analysis in order to justify why our task analysis is cognitive rather than behavioral.

1. Top-level user goal #1: Identify each letter of the A-S-K-S model

Accomplish goal: identify letter A as attitude.
Accomplish goal: identify letter S as skills.
Accomplish goal: identify letter K as knowledge.
Accomplish goal: identify letter S as situational supports.

Method for goal: identify letter A as attitude

Step One: Student will read information linking A to attitude.
Step Two: Student will commit the information to memory.
Step Three: Student will recall information.
Step Four: Student will connect the letter A with the word attitude.
Step Five: Report goal accomplished.

Method for goal: identify letter S as skills.

- Step One: Student will read information linking S to skills
- Step Two: Student will commit information to memory.
- Step Three: Student will recall information.
- Step Four: Student will connect the letter S with the word skills.
- Step Five: Report goal accomplished.

Method for goal: identify letter K as knowledge

- Step One: Student will read information linking K to knowledge.
- Step Two: Student will commit the information to memory.
- Step Three: Student will recall information.
- Step Four: Student will connect the letter K with the word knowledge.
- Step Five: Report goal accomplished.

Method for goal: identify letter S as situational supports.

- Step One: Student will read information linking S to situational supports.
- Step Two: Student will commit the information to memory.
- Step Three: Student will recall information.
- Step Four: Student will connect the letter S with situational supports.
- Step Five: Report goal accomplished.

II. Top-level user goal #2: Explain the area of learning represented AND provide a short description.

- Accomplish goal: explain letter A as it pertains to attitude
- Accomplish goal: explain letter S as it pertains to skills
- Accomplish goal: explain letter K as it pertains to knowledge
- Accomplish goal: explain letter S as it pertains to situational supports

Method for goal: explain letter A as it pertains to attitude.

- Step One: Student will recall information.
- Step Two: Student will write appropriate explanation of information as it relates to the letter A in the A-S-K-S model.
- Step Three: Report goal accomplished.

Method for goal: explain letter S as it pertains to skills

- Step One: Student will recall information.

Step Two: Student will write appropriate explanation of information as it relates to the letter S in the A-S-K-S model.

Step Three: Report goal accomplished.

Method for goal: explain letter K as it pertains to knowledge

Step One: Student will recall information.

Step Two: Student will write appropriate explanation of information as it relates to the letter K in the A-S-K-S model.

Step Three: Report goal accomplished.

Method for goal: explain letter S as it pertains to situational supports.

Step One: Student will recall information.

Step Two: Student will write appropriate explanation of information as it relates to the letter S in the A-S-K-S model.

6. Existing Instruction Analysis

Content and instruction exists in instructor-led training format. Nurses receive several binders full of course material, job aids and additional resource information when they participate in Training I.

During the training sessions, a basic evaluation is performed. Each day an evaluation is filled out by the nurses asking if they received the training they needed and was the training effective and clear. The opinion of these evaluations is that they are good overall, however by the third day, the nurses are overwhelmed by the amount of information they received.

Both the instructors and the nurses like the small group activities and the relationships built during this time. The instructors are comfortable with and excited about online training, however they do not want to lose the interpersonal feel of the small group atmosphere. The interaction between the nurse educators and nurses is critical, as is the initial relationship building and continued support nurse educators provide to the nurses. The relationship aspect is crucial, as it has a trickle down and support effect: Nurse educators support the nurses, who support the mothers, who support their children.

We are currently working with our Kempe Center contact, Chris Thornam, to obtain as much existing instruction as we can, both in electronic and hard copy format. Most of the existing documentation can be used in the final product, however we do anticipate creating some additional training documentation and/or job aids which we will submit to the Kempe Center for approval. In addition to the A-S-K-S documentation, we have received several URLs to existing websites containing information on the Nurse Home Visitation Model. In the event that we

identify gaps in the existing instructional materials, we will arrange for assistance from a Subject Matter Expert from the Kempe Center.

7. Resource Analysis Outline

The spring semester and the assignment due dates are driving the timeline of this project. The Kempe Center is reviewing and revising its current curriculum for the duration of the next calendar year. The training module created through this project will fit into the curriculum whenever the Kempe Center is ready to release it, as there are four additional Training I sessions scheduled this year.

There are no foreseeable grant restrictions at this time, as there is training material development money still in the NHV Program budget.

Technology for the target audience is covered in part in Section 3, Audience Analysis. We do know that each agency that adopts the NHV Program has at least one computer onsite, as they are required to input statistics and other additional information in regard to this project to perpetuate funding. The resulting training module could be accessed through any computer that has access to the Internet; therefore some nurses may choose to complete the tutorial from their homes.

8. Evaluation Checklist

Customer Review: Sign Off Sheet

To: Chris Thornam
Kempe Center

From: Jennifer Herrod
Tools Team

Re: Front End Analysis

Please review this document to see if we have correctly captured the various aspects of this project. For each section listed below we have summarized notes from our meeting on February 2, 2000. Please let us know in each section if there is information that should be added, changed or deleted.

1. Brief description of this project and the Kempe Center
2. Needs analysis
3. Audience analysis
4. Organizational analysis
5. Cognitive Task analysis
6. Existing Instruction analysis
7. Resource analysis outline

Comments:

Approval Statement:

I have reviewed the deliverable and believe that, with my changes, it accurately reflects the information I provided and is technically accurate. I understand that major changes to the content of this material after today may impact the project costs and deadlines.

After completing this document please email to Jennifer Herrod, jennifer@sciencenook.com