

## APPENDIX A

**VENA**

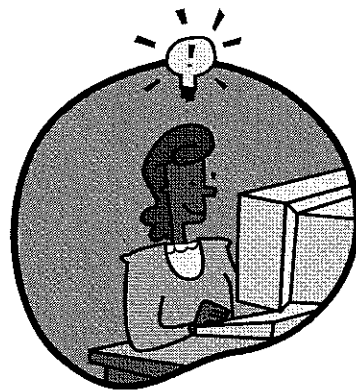


# QWIC LEARN:

(Local, Efficient, Accessible, Responsive, Nutrition Education)

Moving Learning Forward in Pennsylvania

*Pennsylvania WIC Program  
FY2007 Special Project Grant Proposal*



## I. Preface

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**Title of Project: QWIC LEARN (Local, Efficient, Accessible, Responsive, Nutrition Education)-Moving Learning Forward in Pennsylvania**

**I. C. Abstract:** Pennsylvania WIC (PA WIC) will develop the base for an e-Learning system and the first four modules in the system to facilitate the delivery of high-quality, consistent staff training across a large geographic area in a cost-efficient manner. The proposed project is for the development of a series of e-Learning modules focused on staff skills in conducting Value Enhanced Nutrition Assessment (VENA) in the WIC setting. This unique system will be comprised of highly interactive, multi-media learning modules that focus on developing and measuring competencies and skills rather than content knowledge alone.

PA WIC has selected skill based interactive e-Learning modules as the method of delivery for staff training to bring consistent with VENA assessment procedures to Pennsylvania in a timely manner. The Table on page 5 indicates that the selection of an e-Learning format which is Interactive, Centralized (state developed and delivered, PA VENA self-evaluation 2006), and Competency-based (VENA Guidance 2005) will address the immediate needs of WIC Competent Professional Authority (CPA) and nutritionists (SPG FY2005 Year 1 needs assessment)<sup>8</sup> with respect to the establishment of VENA competencies and skills for WIC staff in Pennsylvania. This method also has the unique advantage of being an appropriate training method that can serve equally well for new hires, retraining, and staff enrichment or advancement since it may be used within any training timeframe (asynchronously available 24-7), and may be used to build or remediate skills. The system will be capable of identifying current assessment skills and direct learners to progressive advancement components within each module.

Module content will represent the skills that each Nutritionist/CPA should have to conduct a VENA assessment. The intent is to conceptualize and write new and/or compile from existing training/educational materials a more “day-to-day” skills first training system of modules to expand those materials currently available within WIC. The development of these highly interactive training modules will bring PA WIC nutritionist’s skills into alignment with the VENA mandate in a timely manner. e-Learning will make nutritionist training in PA consistent, effective, efficient, and trackable.

Shirley Sword, PA WIC State Agency will serve as project director and will coordinate interactions between the Indiana University of Pennsylvania (IUP) and JPL Productions, Inc. (JPL) Teams. The IUP Team will provide subject-matter-expertise for module content, develop preliminary content matrices and storyboards for and with JPL. The IUP Team will lead the research efforts and the development of the pre- and post-test instruments used to evaluate staff competency as well as to determine the efficacy of e-Learning as a training modality. The JPL Team will work with IUP and the State Agency to define objectives, content outline and develop the storyboard content. JPL will also develop SCORM (industry standard) conformant e-Learning modules using sound instructional design principles. The State Agency, IUP, and JPL will concurrently review the modules for completion and JPL will deliver the final e-Learning module products.

Any local agency (LA), clinic, and/or individual Nutritionist/CPA or paraprofessional is eligible to participate in the testing of the e-Learning modules. A stratified (Module/Control, Competent Professional Authority/Paraprofessional, and Urban/ Suburban/Rural) random sample for each module will be obtained. A pre-test / post-test of content and skills, and a 2 month follow-up test of content and skills will be administered. For those who used the module, a staff satisfaction survey assessing content and method of presentation (e-learning) will be administered. Quality assurance of the modules will be conducted throughout the process.

**I. D. Focus Area:** “Revitalizing Quality Nutrition Services (RQNS) in WIC through a Focus on Implementation of Value Enhanced Nutrition Assessment (VENA)” is the focus area for the current Pennsylvania WIC (PA WIC) Special Projects grant proposal, “QWIC LEARN (Local, Efficient, Accessible, Responsive, Nutrition Education) - Moving Learning Forward in Pennsylvania”.

This project will enhance the WIC Nutrition Assessment Process by empowering staff to improve their nutrition assessment, critical thinking, communication, and documentation skills.<sup>1</sup>

Conscientious effort has been made to ensure that this proposal is consistent with RQNS themes and initiatives. QWIC LEARN aims to enhance the effectiveness of WIC nutrition services by improving staff training in the area of WIC Nutrition Assessment [i.e., “preparing staff to conduct quality nutrition assessment and develop (art and science) competencies that will ultimately also improve nutrition education”<sup>1</sup>]. This improvement will result in greater staff effectiveness and increased staff satisfaction. Participants will receive information and services related to their individual needs and concerns, and move toward achievement of positive health outcomes as a result of improved continuity of care.

Funding is sought to support the conceptualization, development, and evaluation of e-Learning modules to ensure that ALL staff (Nutritionist/Competent Professional Authority/Paraprofessional) in PA WIC have direct access to a resource that will increase their knowledge of and their competency in the comprehensive VENA goals. Therefore, PA WIC staff will improve their abilities to “develop positive rapport with participants, collect more accurate and relevant information, thereby enhancing the effectiveness of WIC nutrition services provided.”<sup>2</sup>

Content/skills training established at the state level (competency management model where a set of knowledge- and behavior-based skills are tied to organization strategy and vision)<sup>3</sup> can be blended with traditional training methods and reinforcement (collaborative learning)<sup>4</sup> already occurring at the LA level. Competency-based training modules will make the “captured intellectual assets”<sup>3</sup> quickly available to all staff to support the VENA competency initiative and implementation deadlines. The modules will emphasize application of knowledge and each learner’s performance will be evaluated on expected outcomes (i.e., competencies required).<sup>1</sup>

e-Learning was selected because of its potential for consistent, cost-effective, ‘real world’ training through interactive case study, multimedia, tailored instruction, with add-on/modification capability. Advantages of an e-Learning approach include the following characteristics: **Just-in-time** (asynchronous – increased accessibility to train, retrain, refresh), **just-enough** (instruction or information for the task-at-hand, personalized), **low-cost delivery** (upfront costs acknowledged, savings in the long run; ease of distribution with the benefits of tracking competency), and **always up-to-date** (standardized resources available with immediate updates available to all).<sup>4,5</sup> In addition, e-Learning offers learners “control over pace of learning, repetition, and time.”<sup>4</sup> Research literature indicates that “e-Learning permits greater learner interactivity and promotes efficiency, motivation, cognitive effectiveness, and flexibility of learning style.”<sup>4</sup>

The modules developed in this project will accommodate multi-modal learning [audio, narration, screen text, visual (animated graphic, photo, video)] based on research which indicates the more modalities you employ, the greater the acquisition of knowledge. Each interactive e-Learning module will include redacted WIC relevant case studies and video simulations of WIC staff and participant contacts with the aim of improving staff competency in assessment. e-Learning will enable the State Agency to become more directly involved as facilitators of individual learning and assessors of competency through automated tracking.<sup>4</sup> This would be an improvement over the current train-the-trainer format. The primary goal for each module is to teach **Skills First** using critical thinking as a major construct. The concept is to first establish a common set of skills and language that will allow for staff assessment abilities to move toward a best practices model for assessment.

Skills First will establish consistent assessment, documentation of assessment, and evaluation and accountability of/by nutritionists within PA. Skills First is analogous to the acquisition of basic

vocabulary when learning a second language. Modules will be developed specifically in the ABCDEO (Anthropometric, Biochemical, Clinical, Dietary, Environmental and Family Issues, and Other Issues) competency areas and each module will augment critical thinking, communication, and documentation skills development. e-Learning will facilitate making the assessment process more consistent and reduce total training costs across the state over time.

Skills First necessitates the development of a Common Language which is important for Critical Thinking. The context specific language of the modules will reflect the mission of VENA. Using appropriate vocabulary will give a clear understanding of the problem, and should help to communicate the nature of the problem in plain language (within a clinic, across and within the state, and in the Participant-Nutritionist dyad). A common language set assists the translation of ideas between the participant and nutritionist (good communication) and allows the nutritionists/CPA to focus on critically thinking.

Also, Skills First routinizes (becomes nondirected or automatic thinking<sup>1</sup>) skills necessary for an accurate and precise assessment. The CPA can focus on probing questions (clear, concise purposeful thinking) to personalize the assessment. A key to successful critical thinking is being able to recognize how and where the answers fit with the outcome. This is the context of the participant's "life" within WIC (risk, education needs or goals, food package, referrals, etc) and gives more depth to the meaning of the word transferable.

A well developed skill set improves the probability that the proposed solution is viable from the participant's perspective. It builds credibility for WIC and improves the likelihood that better health outcomes can be achieved. If we can help the participant believe in the system – it will empower them and motivate them to participate in the process. This increases the credibility of the WIC Nutritionist, which spills over to the system, the community referrals, and so on. It will move PA WIC participants to a central role in the decision process that should help them to a healthier disease prevention-oriented lifestyle (Figure 1).

In summary, the availability of sound training for staff development leads to competent staff who are essential to "deliver high quality nutrition services to participants"<sup>2</sup> (p. 21) The QWIC LEARN staff training system proposed will consist of interactive, multi-media e-Learning units, with recommendations for blended learning supports. Central to the project mission is the delivery of an interactive staff training system to facilitate and reinforce the implementation of VENA within PA WIC. The VENA-friendly, staff training e-Learning system will include consideration of the following:

- Improvement of the WIC Nutrition Assessment process in PA WIC through the comprehensive and consistent implementation of VENA.
- Cost- and time-effectiveness in terms of efficiency, accessibility, trackability, and transferability
- Movement which is closer to fulfilling the directives in the RQNS: Memorandum, the Nutrition Services Standards, VENA Guidance, and the Challenges Facing the WIC Program<sup>7</sup> (see Table 1) related to staff competencies in the area of Nutrition Assessment.
- Needs of PA WIC as identified by state agency personnel, LA directors, nutrition education coordinators, and nutritionists/CPAs from Year 1 of the SPG FY2005,<sup>8</sup> as well as VENA Guidance and e-Learning literature (Table 2).
- A structured training system for gaining new skills (which can result in promotion within WIC) and greater success on the job (participants who are empowered through knowledge and involvement). A chance for promotion based on skill acquisition and job success and that should translate to increased job satisfaction and that leads to improved retention rates.

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<sup>1</sup> Refers to Halpern's<sup>6</sup> critical thinking – not hierarchy but categorization. Halpern, p. 6.

Table 2.

Staff training characteristics identified as important by constituencies.

Category	VENA <sup>1</sup>	2006 PA WIC VENA Self-Assessment	USDA-SPG-2005 Year 1 Results	Concept Supported in e-Learning Literature
State-Level Driven	X	X	X	X
Effective (competency-based)	X	X	X	X <sup>a</sup>
Thorough & Consistent	X	X	X	X
Accessible	X	X	X	X
Time Efficient	X	X	X	X
Concrete		X	X	X
User-friendly		X	X	X
Specific & Applicable to Job		X	X	X

<sup>1</sup> VENA Guidance

<sup>a</sup> also denotes the capability of e-Learning to track staff competence, providing a documentation trail and accountability measure

## **II. Project Design and Implementation**

### **II. A. Need for Project: To create relevant resources to facilitate the timely and efficient implementation of VENA in the day-to-day WIC operations.**

The enhancement of nutrition services within WIC known as VENA was jointly developed by the Food and Nutrition Services (FNS) and the National WIC Association (NWA). It was a response to the 2002 Institute of Medicine (IOM) report which recommended that all women and children ages two (2) to five (5) who met WIC eligibility based on income, category, and residency status “should also be presumed to meet the requirement of nutrition risk through the category of dietary risk based on failure to meet the Dietary Guidelines”.<sup>1 (p.3)</sup> FNS responded to the IOM report and its recommendations by developing a two pronged approach: (1) Policy Memorandum 98-9 Revision 8, which revised and established new risk criteria, and (2) development of written guidance on comprehensive nutrition assessment to be used across all WIC programs to ensure the consistency and integrity of the assessment process, VENA. This will help WIC maintain its position as one of the premier public health programs.

As depicted in Figure 1, WIC Nutrition Assessment is the cornerstone upon which nutrition services, food package selection, and referrals are built. A quality assessment improves the usefulness of the participant information, serves as a sound basis for assigning risk codes, allows for the establishment of a reasonable nutrition care plan with actionable goals to reduce identified risk and move the participant toward more positive nutrition behaviors and habits; and includes the participant in the entire process (participant-centered). PA WIC is committed to VENA and its implementation. The benefits of VENA include: (1) maximizing health outcomes through improved assessments, and (2) moving PA WIC nutrition education/counseling services toward a more participant-centered system.

Without consistent interpretation of policies, adequate training, and assessment of staff competencies through periodic review, the effectiveness of VENA will be limited. The best written and most comprehensive policies are only as effective as the end users’ familiarity and conscientiousness about them. This means that the comprehensive policies need to be translated into comprehensive and consistent staff training. With the training component comes a need to identify a means to evaluate staff competency in performing nutrition assessment. VENA and the identification of key competencies will require us to move in the direction of establishing a consistent statewide competency-based training

system for staff and evaluating the impact of this training. (excerpted from the PA WIC VENA Self-Evaluation, December 2006).

Currently, staff training in PA WIC is largely left to the LA, and current protocols range from observation alone (shadowing), to a CPA orientation manual with progression through supervised and then independent counseling, all the way to a “model clinic” facility. Training sometimes focuses on the activities and processes that occur within the clinic setting, and do not always include a component of increasing the staff’s content knowledge, communication skills or critical thinking ability. Improving training at the LA level has been the heart of staff development primarily because of our state’s large geographic area, poor transportation infrastructure (inaccessible areas and poor roads), and the inability of the State to dedicate a specific employee to facilitate employee training at the LA level. This increases the likelihood of inconsistent assessments.

Philosophically, our LA staff exhibit a clear understanding of the scope and purpose of the WIC assessment process. As reported at a recent regional VENA training, 19 out of 24 PA WIC LA staff believes the purpose of a WIC assessment is to identify health status or determine WIC eligibility and tailor services to individual participant needs. While in theory data collection and analysis seems like a complete process, the reality is that the interview component of the assessment is the most variable, and the competency of staff to interpret anthropometric data, bloodwork values, and dietary quality is also highly variable. Even as the State Agency staff is able to identify inconsistencies in assessment across the state, they believe that the Nutritionists/CPA across the state are philosophically ready to adopt VENA. While the state is aware that readiness to implement is a challenge, they are aware that the CPAs/nutritionists across PA desire training from the state that is consistent and focused on the specifics of VENA and they want the training to be relevant to their day-to-day tasks (SPG FFY2005, Year 1 data)<sup>8</sup>.

To address the challenges of VENA implementation in Pennsylvania, this Special Project Grant Proposal will develop a set of interactive, multi-media staff training modules on an e-Learning platform. The development of these modules will be completed in priority order, as identified by the State Agency (most critical = first done).

### **Conceptualizing the Staff Training Modules:**

“VENA is the first step in quality nutrition services. That is, in order to provide appropriate and personalized nutrition intervention..., it is necessary to first conduct a nutrition assessment.”<sup>1 (p. 8)</sup> Since assessment “requires the use of a systematic approach to collect, evaluate, and make use of the information that is elicited from the participant”<sup>1 (p. 11)</sup> which implies the application of critical thinking, then the staff training should employ a practical approach. We view the best approach for this type of training to be one which integrates the teaching of concepts, processes, and competencies needed for the assessment process with demonstrable critical thinking and communication skills.

“Critical thinking is the use of those cognitive skills or strategies that increase the probability of a desirable outcome. It is used to describe thinking that is purposeful, reasoned, and goal directed – the kind of thinking involved in solving problems, formulating inferences, calculating likelihoods, and making decisions when the thinker is using skills that are thoughtful and effective for the particular context (this term refers to the assessment process and is germane to the current FFY2007 Special Project Grant) and type of thinking task.”<sup>6 (p. 5)</sup> This is what we expect of nutritionists in a WIC setting. This defines their job functions with respect to the participant<sup>1 (p.13)</sup> as those where they:

1. systematically collect relevant information (data).
2. clarify and synthesize data collected (establishes relevance through critical thinking).
3. identify pertinent risk or risks and other related issues.
4. document the assessment – communication and continuity of care.
5. follow-up.

The selection of a skills approach is specifically designed to address several issues: (1) It will bring consistent VENA assessments to PA WIC in an expeditious timeframe.; (2) It will be a more



efficient method of staff training across a state with several economic, logistical and geographic constraints.; and (3) It will serve as a more efficient mode of training “new hires,” a “brush-up format” for people who have been in the field for several years, and a method for other personnel (i.e., paraprofessionals) to gain new competencies and skills that would make for more efficient allocation of staff resources in clinics where staff availability and training is an issue.

The selection of a skills approach for the SPG FFY2007 modules was based on the empirical evidence that thinking can be improved. Halpern (1996) states that the evaluation of “thinking courses”... “provide substantial evidence for the conclusion that (it) is possible to use education to improve the ability to think critically, especially when instruction is specifically designed to encourage the transfer of these skills to different situations and different domains of knowledge.” By the establishment of a critical thinking approach to the skills-based training modules it is anticipated that the “critical thinking” process will then become the style of thinking in a WIC assessment and that kind of thinking will then permeate or filter down into the outcomes of an appropriate assessment; i.e., better judgments and improved nutrition services with appropriate food package tailoring, improved nutrition education care plans, and meaningful referrals.

The nuances and richness of the information gathered during the assessment process is what blends the science (e.g., appropriate and valid methods to collect information, systematic approach to information gathering, evidence-based information analysis, and documentation) with the art (e.g., participant focus, staff competencies, and interviewing and communication techniques) and makes it both a human process and a comprehensive one.

The goal of this SPG FFY2007 is to develop e-Learning training modules based on the VENA ABCDEO competency areas, which integrate critical thinking protocols, communication skills and documentation. The modules will be interactive, multi-media modules that concentrate on the skills required to perform, interpret, and document a value-enhanced assessment in WIC. The modules will be learner driven in that they will be designed to assess the learner’s need for each module. Learner’s need for training in a particular area will be determined and modules (or module sections) may be repeated until competence is obtained. Evaluations within the modules will provide an automated mechanism to verify staff competency.

In addition to the e-Learning modules, suggestions will be provided for companion reinforcement activities (not part of this grant) that can be done easily as part of a staff in-service at the LA/Clinic level. Four components essential to training that change practices are: knowledge, modeling or demonstration, low-risk practice, and follow-up support.<sup>9</sup> e-Learning will support staff competency development toward changes in practice by improving knowledge and critical thinking skills using case studies that incorporate modeling or demonstration. When e-Learning is paired with practice, follow-up and support at the LA/Clinic level, change in practice should be realized.

**II. B. Goals:** The Goals of this SPG are cyclical, interrelated, and reinforce the proposal’s purpose to support implementation of VENA through staff training (Figure 2).

- Goal 1: “To Enhance Staff Competency and Support Implementation of VENA through the Development, Production, and Implementation Trials of e-Learning Modules.
- Goal 2: “To Evaluate Staff Competency Before and After Completion of e-Learning Modules.
- Goal 3: “To Evaluate Satisfaction with an e-Learning Format for Staff Training.

The remainder of this section provides a title and brief description of the undertakings for each goal of the project.

### **Goal 1:**

**Facilitate VENA Implementation:** e-Learning will assist PA WIC to implement a VENA-friendly assessment process within the mandated timeline. Until the full set of VENA competency modules are complete, e-Learning will co-exist with existing training modes.

**Development and Production of the e-Learning Modules:** As specified in the VENA Guidance manual (p. 32), training needs will be identified through a variety of mechanisms: as per the 2006 VENA self-evaluation, via clinic observation and monitoring visits (findings of State Agency personnel or via LA Director audits), and staff surveys and questionnaires administered through SPG FFY2005 (state of being). Competencies will integrate learning domains and modules will center on the development and practice of critical thinking skills. Wherever possible, existing materials such as those developed by Rochester Institute of Technology (RIT) or those available on WICWorks will be utilized and adapted to meet the objectives of the e-Learning modules. During the Development phase, the IUP and JPL Teams will work very closely with one another and with S. Sword to ensure that the modules are consistent with VENA and meet the needs of PA WIC. The e-Learning modules will be pilot (beta)-tested with a small group of PA WIC Nutritionists prior to opening access to the modules to a limited larger group of PA WIC Nutritionists. If any module or part of a module is limited in its ability to bring the staff to desired competency levels the module or part(s) will be modified and retested. These early reviewers of the training modules will provide the valuable feedback necessary to refine the module content and design.

**Implementation of the e-Learning Modules:** During the grant period, each e-Learning module will be used to provide training to WIC staff. A total of 30 Nutritionists/CPAs/paraprofessionals will use a given module with data relevant to Goals 2 and 3 collected.

### **Goal 2:**

**Assess Staff Competency:** While there should be several ways to assess staff competency, e-Learning will provide the first and only consistent, automated, and trackable mechanism by which the PA WIC State Agency can determine who has met and/or renewed competencies (across ABCDEO areas, including critical thinking, communication and documentation) and at what level (e.g., performance statistics such as number of errors, point(s) at which remediation pathways were instituted based on learner response, pre- versus post-test comparisons).

### **Goal 3:**

**Evaluate e-Learning as a Training Method:** Evaluation methods will include determination of staff satisfaction with e-Learning as a training modality and the degree to which they improve competency relative to Nutrition Assessment. Several measures that could be used as a basis for cost-effectiveness such as the number and characteristics of staff who successfully complete the module and the time needed for completion.

**II. C. Objectives:** *Because the research questions are derived to meet project objectives, elaboration of the methods is provided in Section III. B. Research Design.*

### ***Goal 1: Development, Production, and Implementation of the e-Learning Modules:***

**Objective 1:** A total of six (6) skill- and case-study based, e-Learning modules (i.e., VENA Overview, Anthropometrics, Biochemical and Clinical, Dietary, Environmental and Family Issues, and Other Relevant Issues) that address VENA competencies (inclusive of critical thinking and effective communication) will be conceptualized and storyboarded. A concerted effort in the development will be to conserve time and money by exploring existing educational and training materials (e.g., RIT, WICWorks, and existing PA WIC training manuals) for incorporation or adaptation. Modules will be designed so the learner will demonstrate the ability (80% minimum score) to:

- a. Define vocabulary.

- b. Collect relevant information (data)
- c. Clarify and synthesize data collected
- d. Identify pertinent risk(s) and other issues
- e. Document assessment for continuity and communication
- f. Follow-up

**Objective 2:** 4 of the 6 modules will be produced: VENA overview, anthropometrics, biochemical and clinical, and dietary have been selected by the PA WIC State Agency as priority modules for development given budgetary constraints.

**Objective 3:** Each module produced will be pilot tested with 3 to 5 LA WIC staff to ensure delivery of quality, usable staff training modules.

**Goal 2: Assess Staff Competency:**

**Objective 4:** For each module, trials involving select WIC staff will assess staff competencies using integrated testing within each of the e-Learning modules. Staff (n=25-30) competency development will be measured based on (a) analysis of pre- and post-test scores on the modules, (b) % of staff who are competent based on post-test score, and (c) retention or stability of competence based on 2-month follow-up post-test scores. In addition, a staff satisfaction survey regarding content and method of delivery using e-Learning will be administered. A control group of staff (n=25-30) will take only the tests.

**Goal 3: Evaluate e-Learning as a Training Method:**

**Objective 5:** Using the evaluation methods described in Objective 4, efficacy and satisfaction will be assessed across all four modules to evaluate e-Learning as a training tool.

**II. D. Tasks:** **Figure 3 visually depicts primary tasks across Years 1-3, including those with primary responsibility.** Tasks are itemized in Section VI. A. 4. Task Table and a narrative description of tasks is provided in Section III. B. Research Design.

**II. E. Environment:** This project will be implemented with **partner agencies in which clinics or agencies have not yet been selected.** Any LA and/or clinic and/or individual Nutritionist/CPA or paraprofessional staff is eligible to participate in the testing of the e-Learning modules. Affiliates with local proximity to Harrisburg will be recruited to assist with pilot testing.

**II. F. Letters of Support:** Included in appendices.

### **III. Project Evaluation**

**III. A. Type of Evaluation:** Two **Types of Evaluation** will be used, both of which represent the two major approaches to the evaluation of e-Learning<sup>4</sup>: Process Evaluation (Objectives 1, 2 & 3) and Outcome Assessment of Impact Evaluation (Objectives 4 & 5).

**III. B. Research Design:** **[Staff responsible, sampling, data collection and analysis methods, strengths and weaknesses and findings or results are addressed under each research question.] The following describes 5 objectives and the associated research questions.**

For **Objective 1**, Module Development – Conceptualize and Preliminary Storyboard (each of 6 modules), a **Process Evaluation** approach will be used.

- **Research Question 1-1** is “Do the modules appropriately represent the content and skills to be learned and assessed?”

- The **Measures** to be used include a Table of Specifications for each component of each module. For the modules and tests the rows for each table will consist of the competency as a measurable objective and the columns will consist of the knowledge, skills, and assessment methods. The **IUP Team** will lead the effort in the development of the Table of Specifications for each module based on learning needs and using case studies available from the state agency and input from various LA staff. Further, the IUP Team and Shirley Sword (SS) in consultation with the JPL Team will produce a preliminary storyboard for each module.
- The **Strength** of this method is that it helps codify and organize the process of module and test development in such a way as to allow easy understand of the development process.
- Using the approach above, there is a strong expectation of **Finding** that the modules and tests will lead to appropriate learning by LA staff. Further, because the e-Learning method will be used, there is the expectation that the modules will be easily usable via CD or the Internet to all WIC agencies nationwide.

For **Objective 2**, Module Development – Final Storyboard and Production (each of 4 modules), a **Process Evaluation** approach will be used. This will include refinement of the Tables of Specifications and the development of tests/surveys with the IUP Team working with the JPL Team. The JPL Team will build the preliminary electronic modules.

- **Research Question 2-1** is “Do the preliminary e-Learning modules appropriately represent the content and skills to be learned and assessed?” **Research Question 2-2** is “Do the preliminary tests appropriately assess the content and skills to be learned and assessed?” **Research Question 2-3** is “Do the preliminary satisfaction surveys appropriately assess the opinions of the respondents?”
- The **Measures** to be used include a final interactive review by the IUP Team and the JPL Team. The **JPL Team** will lead the effort to refine and produce the modules.
- The **Strength** of this approach is that the IUP Team and SS have the subject matter expertise related to content, skills, and assessment and the JPL Team has expertise related to instructional design and multimedia production.
- Using the approach above, there is a strong expectation of **Finding** that the modules and tests will lead to appropriate learning by LA staff.

For **Objective 3**, Module Development – Pilot Testing (each of 4 modules), a **Process Evaluation** approach will be used.

- **Research Question 3-1** is “Do the preliminary e-Learning modules appropriately represent the content and skills to be learned and assessed?”
- The **Measures** to be used include a “think aloud” approach for detailed responses by the LA staff for each module. Further, their satisfaction responses will be collected. The **Sampling Plan** is to recruit separate groups of 3 to 5 LA staff for pilot testing each module. The **Data Collection Methods** include the use of tape recorders for the “think aloud” measure and an e-Learning Satisfaction Survey which will collect Content and Learning data and e-Learning Method of Delivery data as a part of the module. The **Data Analysis Methods** will include content analysis of the tapes by the Research Assistant and examination of the data from the Satisfaction Survey. The IUP Team will summarize the results and work with the JPL Team to produce a final product for each module.
- The **Strength** of this approach is that LA staff have “day to day” experience working for PA WIC; the IUP Team and SS have expertise related to content, skills, and assessment; and the JPL Team has expertise related to instructional design and multimedia production.
- Using the approach above, there is a strong expectation of **Finding** that the modules and tests will lead to appropriate learning by LA staff.

For **Objective 4**, Module Development – Implementation Trials (each of 4 modules), an **Outcome Assessment of Impact Evaluation** (Figure 4) approach will be used to Assess Staff Competency.

- An experimental design will be employed. **Research Question 4-1** is “Do the final e-Learning modules help LA staff develop content and skills competency compared to staff who do not use the modules?” **Research Question 4-2** is “At what rate do the final e-Learning modules help LA staff develop content and skills competency?” **Research Question 4-3** is “Do the final e-Learning modules appear to be a satisfactory way to increase competency levels for those LA staff who used the modules?”
- The **Measures** to be used for Research Question 4-1 include assessment of (a) initial competency levels, (b) post module content and skills competency achievement for staff who used the modules and for those who did not, and (c) content and skills competency retention 2 months after the post-test. For Research Question 4-2, average module completion time will be assessed for those who used the modules. For Research Question 4-3 a staff satisfaction survey assessing content and method of presentation (e-Learning) will be administered to those who used the modules. The **Sampling Plan** is to obtain a stratified (Module/Control, Competent Professional Authority/Para-Professional, and Urban/Sub-urban/Rural) random sample for each module. The **Expected Sample Size** is 5 in each cell for a total of 60. The **Data Collection Methods** include for the entire sample: a pre-test of content and skills, a post-test of content and skills, and a 2 month follow-up test of content and skills. For those who used the module, a staff satisfaction survey assessing content and method of presentation (e-learning) will be administered. All data will be collected via the e-Learning module presentation mode (e.g., Quick WIC, a Learning Management System or another method as determined by SS in consultation with the state agency technology staff and the JPL Team). The **Data Analysis Methods** will include inspection of the data distributions to check statistical assumptions. A 2 x 2 x 3 Analysis of Co-variance with Repeated Measures followed, where appropriate, by post-hoc procedures, will be done to help answer Research Question 4-1. Dependent Sample t-tests will be done to help answer Research Questions 4-2 and 4-3. If the distribution shapes are not favorable, then Non-Parametric analyses will be used. All analysis will be conducted by the IUP Team.

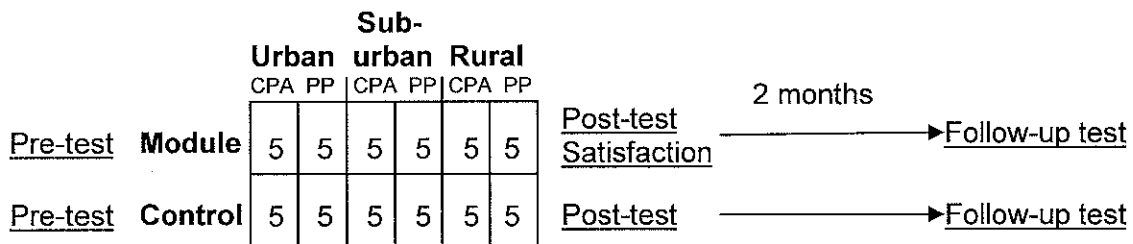


Figure 4 Research Design for Each Module Trial.

Note: CPA – Competent Professional Authority & PP – Para-Professional

- The **Strength** of this approach is that a Quasi-experimental design can allow a suggestion of probabilistic cause and effect, if there are differences between the treatment and control groups. The Dependent Sample t-test for those staff who completed the modules will allow the description of success rates based on module component tests and satisfaction levels.
- Using the approach above, there is a strong expectation of **Finding** that the modules and tests will lead to appropriate learning by LA staff and that there will be high levels of satisfaction.

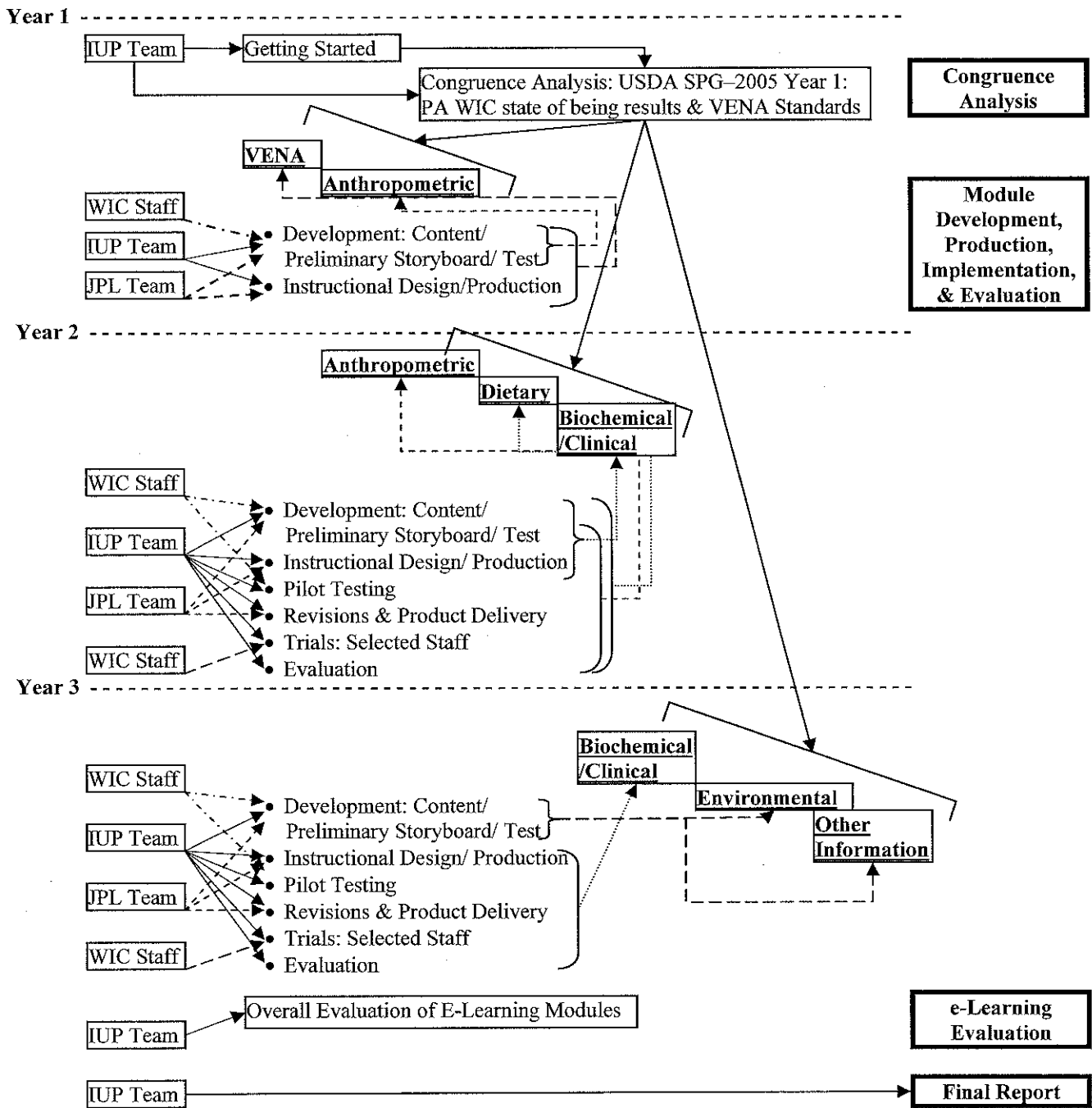


Figure 3. Flow diagram illustrating Years 1-3 plans.

### III. Project Evaluation (continued)

For **Objective 5**, e-Learning as a Training Method (across all 4 modules), an **Outcome Assessment of Impact Evaluation** (Figure 5) approach will be used which follows the same procedures and research questions outlined in Objective 4 with the inclusion of all of the modules, not just evaluation of individual modules.

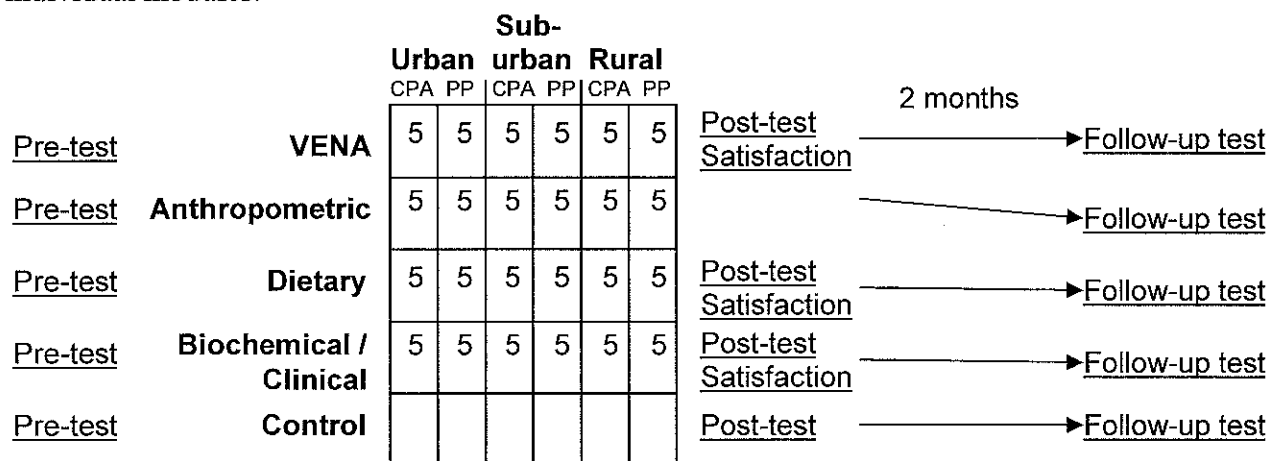


Figure 5. Research Design for All Modules Together Trial.

Note: CPA – Certified Professional Assessor & PP – Para-Professional

### IV. Sustainability and Transferability:

**IV. A. Sustainability:** A sustainable system is one that has a well-constructed, strong foundation. Once the core/template the e-Learning system is developed, to the system is able to accommodate new topics and the update of existing modules as new information, standards, or procedures emerge. Centralization and standardization are key for allowing state agencies to control how the vision (best practices) of VENA is operationalized. By limiting the number of training personnel involved in the communication system, alterations/misinterpretations to content and misunderstandings of the expectations for competency development will be minimized. e-Learning provides a stable and enduring mechanism for staff training, retraining, refreshing, and evaluation through the ability to track and document competency. Potentially the system would serve to strengthen retention rates and serve as a means to promote WIC staff within the system.

This grant will not allow us to develop the modules that would constitute a comprehensive, all-inclusive course of staff training curriculum that would address all aspects of VENA, but building and evaluating the appropriate platform for any future modules would set the groundwork for future endeavors toward a comprehensive system. The topics that could be included in future modules are too numerous to count or even predict at this point, but PA WIC staff are eager for trainings developed by the State Agency.<sup>8</sup> Future modules could be funded through Operational Adjustment grant funding, or incorporated into the normal WIC operating budget. Dollars normally spent on staffing and travel to conduct multiple regional trainings could be applied towards development of future modules which could reach the entire LA staff within a shorter amount of time with limited impact on operation hours of clinics.

**IV. B. Transferability:** The products developed through this grant will help to fulfill a documented need for Staff Training that is VENA-friendly; therefore usable and/or adaptable by all WIC agencies across the nation. The modules will be usable as a stand-alone educational tool in CD format, as well as ready for import to a Learning Management System, accessible through QuickWIC or other existing

systems. The e-Learning modules will be developed using standard technology/software platform(s). Every effort will be made to maximize the compatibility and usability of products/modules developed across many computer systems to facilitate the widespread distribution and use of these materials. Sharable Content Object Reference Model (SCORM) specifications which prescribe the manner in which systems (LMS) handle e-Learning products will be used. SCORM-compliant specifications are a well accepted industry standard. SCORM standardizes a method to launch and track learning experiences, and define the intended behavior and logic of complex learning experiences. SCORM allows complex learning experiences that go far beyond what can be done with simple hyperlinked web content. SCORM conformant material standardizes how Learning management systems (LMS) track learners. Importantly, the design of the modules will foster processes that emphasize critical thinking and communication skills, a transferable benefit with regard to decision points inclusive of and outside of nutrition assessment. Additionally, the proposal includes the production of research reports and presentations and travel to professional conferences to disseminate interim and final findings. The project is being conducted by faculty at a state university who are required to perform as a component of their review, "Scholarly Activity" (i.e., research and publication), as well as "Service" to the community.

#### **V. Key Personnel**

**(Abbreviated Resume/Vita and Commitment Letters provided in Appendix A):**

**V. A. Key Personnel Names & Titles:** **Project Director:** Shirley Sword; **IUP (Indiana University of Pennsylvania) Team Members:** Stephanie Taylor-Davis, Principal Investigator; Mia M. Barker, Investigator; William F. Barker, Evaluator; **IUP Other:** Research Assistant; **JPL (JPL Productions):** Steve Hulse, Manager e-Learning; Neal Quesinberry, Instructional Designer, Project Manager.

**V. B. Key Personnel Descriptions:** **Shirley Sword (SS), Project Director.** Ms. Sword is the Chief, Nutrition Services Section, Division of WIC, PA Department of Health. As the Single Point of Contact, she will hire the IUP and JPL Teams to conduct the project and coordinate the activities across these Teams to ensure the project stays on schedule and within budget. She has 13 ½ years in WIC, and has steadily assumed more responsible staff positions throughout those years. Her oversight of the project will consist of content expertise and advisement, monthly teleconferences, quarterly meetings (in-person or videoconference) with the IUP and JPL Teams, and review of all submitted reports. She will be responsible for transmittal of all reports to FNS. These responsibilities will be scheduled within her job as Chief, Nutrition Section Services. **IUP Team: Stephanie Taylor-Davis (STD), Principle Investigator, Mia Barker (MMB), Investigator, and William F. Barker (WFB), Evaluator.** STD will coordinate the time schedule, progress and budget reports with S. Sword and be responsible for the overall organization related to IUP Team responsibilities. STD and MMB will cooperatively be responsible for: development and preparation of the content scripts, translation of case study material as an interactive component, all assessment instruments, suggest a plan for any blended media/modalities to be used in conjunction or as follow-up to individual staff completion of the e-Learning modules, data interpretation, and presentation and manuscripts. They will help supervise the research assistant. They will also participate in writing progress reports, publications and presentations. **STD** has educational background in public health, internship experience and recent clinic observation/training (specific to PA WIC) in WIC, and a PhD in Nutrition (emphasis - nutrition education). She currently teaches nutrition education methods and has been involved in online/distance education for over 12 years. Along with the Drs. Barker, she has conducted and published research in nutrition. Release time to fulfill grant responsibilities will be based on project needs and has been budgeted for so that grant obligations can be balanced with a reduced teaching load at IUP in the fall and spring and support to maintain grant activity in the summer. **MMB** has a PhD in foods and an undergraduate degree in nutrition. She teaches foods and metabolic nutrition and has conducted research in many areas including "how to teach science-based information". Release time to fulfill grant responsibilities is established in the same was as described for STD. **William Barker (WFB), Evaluator.** William Barker will serve as the methodology and statistical evaluator. His expertise will guide the development of tests and measures within the e-Learning system



for assessment of staff competency. William has his PhD in research design and statistics and has served as project evaluator on several million dollars worth of research grants. He will be released to work on the grant .5 credits in each fall and spring semester of the grant funding period. He will teach graduate courses and receives doctoral enhancement release because he teaches primarily in a doctoral program, which offers course release time of three credits per semester.

**JPL Team: Stephen F. Hulse (SFH), Neal Quesinberry (NBQ), Chris Chappell (CC), Gary Milbrand (GM), John Hughes (JH), Rachel Fritz (RF), and Hollie Rudy (HR).**

**Steve Hulse**, manager of e-Learning, will serve as overall administrator and liaison for JPL with WIC and IUP. Steve has a Master of Education degree with a major in Teaching and Curriculum, and has more than 25 years of experience in health care education and multimedia production. **Neal Quesinberry**, project manager in e-Learning, has his M.A. in English with an Emphasis on courses in literature, contemporary theory & technology from Virginia Polytechnic Institute & State University. Neal is an experienced project manager and instructional designer who will work closely with the WIC and IUP team to implement the content in an instructionally sound manner to leverage the full advantage of multimedia e-Learning. **Luke Kempfski**, President of JPL Productions, will serve as an e-Learning consultant on the project providing learning and technology strategy and executive level support for the JPL and WIC teams. Luke has a Master of Education degree in Training and Development and was the founder of JPL's interactive education and training business in the early-1990s. **Chris Chappell** will serve as an e-Learning consultant. He will provide instructional design and development consultation. Chris received his Master of Science in Instructional Technology from the Institute for Instructional Technologies at Bloomsburg University, and is a member of the IIT's Corporate Advisory Council. **Gary Milbrand** will serve as lead programmer and developer for this project. Gary received an Associate of Arts degree from the Art Institute of Philadelphia. He has 10 years of experience in all phases of multimedia development and web delivery of e-learning content, and 5 years of experience in making e-learning courses SCORM conformant. **John Hughes** received his Master of Science degree from Shippensburg University with a focus on mathematics and computer science. He is well versed in creating programming to interfacing e-Learning programs with learning management systems. **Rachel Fritz** has an Associate Degree in graphic design from Harrisburg Area Community College. She will serve as interface designer and graphic artist. **Hollie Rudy** received her Bachelor of Science degree in graphic design from the Art Institute of Pittsburgh. In addition to graphic design, Hollie is experienced in Adobe Flash development and use of SCORM conformant learning management systems.

**Positions unfilled. Title: Research Assistant. For details see Task Table (Table 3)]** The Research Assistant, under the direction of one of the IUP Team Investigators (task dependent) will aid in the development of the module content, assessment instruments, assist in the identification of media enhancements for the content, and help to coordinate pilot/beta-testing of the e-Learning modules.

**Qualifications for Research Assistant:** The **Research Assistant** should have a BS in nutrition, education and/or a related field; excellent oral and written communication and organizational skills; good interpersonal skills; proficiency and comfort level with a variety of computer applications; experience with WIC and research preferred.

## **VI. Management and Budget Plan**

### **VI. A. 1. Chain of Command and Responsibilities (Figure 3 – Organizational Chart (Appendix E) and Table 4 Module Development Schedule):**

**WIC State Agency:** Shirley Sword will represent the WIC State Agency and serve as Project Director. It will be her responsibility to coordinate the interactions between the IUP and JPL teams. She will also be the primary liaison between the project and the Bureau of Information Technology (BIT) that is ultimately responsible for QuickWIC operations, and will have oversight of all aspects of this project. All materials and deliverables from this project will have to be approved by the State Agency.

**IUP Team:** Stephanie Taylor-Davis, the Principle Investigator (PI), will coordinate and monitor project activities that involve IUP Team Members and associated hired personnel (i.e., Research Assistant). She will be directly accountable to Shirley Sword, Project Director. Primary IUP Team responsibilities include: provision of subject matter expertise for module content, developing preliminary content matrix and preliminary storyboards for/with JPL. The IUP Team will work with the JPL Team instructional designers who will ultimately develop the interactive E- modules. The IUP Team will lead the determination of the evaluation needed to assess staff competency level, remediation/instruction, and performance to meet training expectations, and recommend (for later development) post-module activities to facilitate learning communities at the local level. The IUP-based project activity will be tracked via weekly time and task logs completed by all project-related individuals. Time and task logs will be submitted to the PI each quarter. Weekly staff meetings will provide opportunities for progress reporting, updates, and adjustment to project plans to achieve established goals. Any budget requests by IUP-based staff will require approval by the PI. On a monthly basis, the IUP and JPL Teams will have a conference call or videoconference with Shirley Sword, PA WIC. In addition, twice per funding year PA WIC and the IUP and JPL Teams will meet face-to-face.

**JPL Team:** Steve (manager), Neal (project manager), Luke (consultant) Chris (consultant), Gary (lead developer), John (lead programmer). Rachel Fritz (developer), Hollie Rudy (developer). The primary responsibilities of JPL will be to work with IUP and the WIC State Agency to define objectives and content outline and develop the storyboard content. Once the storyboard has been completed and reviewed for accuracy as it pertains to the VENA model and initiatives, JPL will develop the SCORM conformant modules. Initial Quality Assurance will be conducted by JPL throughout the process. Once the review process is completed by both IUP and JPL, the completed modules will be delivered according to the proposed project timeline.

**VI. A. 2. Contingency Plans:** *Related to Staff:* The financial means to secure adequate staff time to fulfill contract obligations have been addressed in the budget for this proposal.

**IUP Team:** If, however, additional release time is required for IUP faculty to fulfill contract obligations, internal opportunities such as Sabbatical Leaves (all IUP faculty on the project are currently eligible to apply) can be sought. Should unforeseen events bar a faculty member from participating in the project, other faculty in the Department of Food and Nutrition (DFN) are qualified. Additional campus resources (e.g., the IUP technology services area, The Applied Research Laboratory (a research methods and statistical analysis consulting service)), could provide consultation on the project as well. A viable graduate student pool, both within the DFN as well as in the College, is available to recruit individuals to assume the Research Assistant position. Of the DFN students, all would have undergraduate degrees and dietetic internship training that would include specialization areas in nutrition education and intervention, and many are already Registered Dietitians. Maintaining the same Research Assistant, while advantageous, will not compromise completion or quality of the project. *Related to Research Activity and Outcomes:* If results are not as expected, the IUP Team will consult with Shirley Sword to revise the direction of the research activity so opportunities are optimized to positively affect and advance the WIC mission in the areas of staff competency and the staff training materials to promote VENA implementation. *Related to Partner Agencies:* No specific LAs have been selected for this project; the intent is that at some level representation from all LA agencies will be drawn upon. All LAs have been very cooperative in the SPG FY2005 project.

**JPL Team:** Should key personnel be unavailable from this team, JPL would be committed to replacing those individuals with equally competent members within their organization.

**Summary IUP Team Accomplishments: STD:** Publications: 17 articles and 1 scientific monograph. Professional Presentations: 41. **MMB:** Publications: 2 instructor's manuals for textbooks; 2 articles; Professional Presentations: 71. **WFB:** Publications: 27 articles. Professional Presentations: 81.

**Summary JPL Team Accomplishments:** JPL has developed and produced numerous multimedia scripts and interactive multimedia e-Learning solutions for a variety of clients including non-profit

organizations, public health organizations, state government, and corporate clients. Clients include Pennsylvania Medical Society, Dickinson College, Penn State University College of Medicine, the Susan P. Byrnes Health Education Center, Pennsylvania Department of Environmental Protection, Pennsylvania Department of Transportation, Hershey Company, Giant Food Stores, LLC, and Highmark, Inc.

**VI. A. 3. Outside Personnel:** The staff training e-Learning modules to include integrated assessment tools are being developed, produced, and evaluated by the IUP and JPL Teams and Shirley Sword; however, a key to sound educational strategies and their assessment is derived when tools and instruments are reviewed by experts (analogous to peer-review of research articles). Staff competency modules and their assessment instruments cover several areas and where outside expertise is needed, outside specialists will be identified via the professional networks of the IUP and JPL Teams and PA WIC to solicit reviewers. A WIC-based technology expert will be required for the purpose of establishing e-Learning support structure (e.g., stand alone infrastructure, Learning Management System (LMS)) to enable staff to view, complete and track training. JPL will consult with PA WIC in this area, however, establishing a LMS is not part of this grant request).

**VI. A. 4. Task Table:** Narrative can be found in Sections II. B. Goals and III. B. Research Design. The Task Table is located in Appendix E as Table 3.

### **VI. B. Budget and Justification:**

**VI. B.1. Budget:** The total budget amount request is \$500,000, with a breakout by line item provided in Tables 5 and 5a. The total budget amount for both components is reflected as the Grand Total on Table 5. IUP and JPL line item budgets are reflected independently because the JPL budget is based on module cost estimates, rather than on time and materials, whereas the IUP budget reflects a more conventional breakdown of personnel and other related expenses.

**VI. B. 2. Budget Justification:** The largest allocation category in the budget is for personnel. The project activities described require considerable time and brain-power, as opposed to physical resources, to conceptualize, collaborate, communicate, analyze, interpret, develop, implement, and evaluate. Many of these activities, particularly evaluation of the efficacy of staff training, are not done because there is inadequate staff time at PAWIC and within the LAs to carry out extensive evaluation. This proposal seeks to buy auxiliary staff time and expertise to develop e-Learning modules to facilitate VENA implementation. Through the affiliation with Indiana University of Pennsylvania, PA WIC will gain access to faculty with the content expertise to develop, implement, and evaluate staff training via e-Learning. JPL will bring instructional design and production expertise to ensure an educationally effective e-Learning training system of professional quality that will engage and involve the learner. Because of the IUP and JPL affiliations supported by this grant, the availability of campus/corporate facilities and resources, the equipment costs are minimized through contributions of office space, phone, computers, software, etc. Faculty involved will be able to use their own office space and computers for their individual contributions that they will bring to the project. JPL will provide instructional design consultation, media production and edit facilities, encoding and programming, and e-Learning program quality assurance. These development and research activities will improve staff training methods and enhance staff competency in WIC Nutrition Assessment. Travel has been budgeted for IUP staff. Travel for State Agency staff as well as the sponsoring of a conference call will come out of the normal WIC Operating Budget. JPL staff will not be required to travel.

**VI. B. 3. Indirect Rate Cost Agreements (ICRA):** Indirect costs are not being claimed.

**Table 4. Module Development Schedule.**

**Module Development Schedule**

		VENA Module	Anthropometric Module	Dietary Module	Biochemical Clinical Module	Environment Module	Other Module
Year 1	2008	3-1	I				
		3-15	I				
		4-1	I				
		4-15	I				
		5-1	I				
		5-15	I				
		6-1	I J				
		6-15	I J				
		7-1	I J				
		7-15	J	H			
		8-1	J	H			
		8-15	J	H			
Year 2		9-1	J				
		9-15	J				
		10-1	J	H			
		10-15	J	H			
		11-1	J	H			
		11-15	J	H			
		12-1	J	H			
		12-15	J	H			
	2009	1-1	J S	J			
		1-15	S	J			
		2-1	S	J			
		2-15	S	J			
	3-1	S	J				
	3-15	S	J				
	4-1	S	J				
	4-15	S	J				
	5-1	S	J				
	5-15	S	J				
	6-1	S	J				
Year 3		6-15	S	J			
		7-1	S	J			
		7-15	S	J			
		8-1	S	J			
		8-15	S	J			
		9-1	S	J			
		9-15	S	J			
		10-1	S	J			
		10-15	S	J			
		11-1	S	J			
		11-15	S	J			
		12-1	S	J			
2010		12-15	S	J			
		1-1	S	J			
		1-15	S	J			
		2-1	S	J			
		2-15	S	J			
		3-1	S	J			
		3-15	S	J			
		4-1	S	J			
		4-15	S	J			
		5-1	S	J			
		5-15	S	J			
		6-1	S	J			
	6-15	S	J				
	7-1	S	J				
	7-15	S	J				
	8-1	S	J				
End							

I - IUP Team + WIC Staff, J - JPL Team & S - Selected Staff PA WIC

**VI. B. Budget and Justification:**

**VI. B.1. Budget:**

Table 5.

**Budget** -----

Category	Year 1		Year 2		Year 3	
	IUP RI	IUP	IUP RI	IUP	IUP RI	IUP
Personnel	0.00	55657.00	0.00	75667.00	0.00	57224.00
Fringe Benefits	0.00	19695.00	0.00	26749.00	0.00	20591.00
Postage	0.00	0.00	0.00	0.00	0.00	0.00
Telecommunications	0.00	0.00	0.00	0.00	0.00	0.00
Printing/Duplication	0.00	0.00	0.00	0.00	0.00	0.00
Travel	1000.00	0.00	4000.00	0.00	2000.00	0.00
Professional Services*	0.00	0.00	0.00	0.00	0.00	0.00*JPL Costs 201469.00
Other Services	0.00	0.00	0.00	0.00	0.00	0.00
Supplies	2400.00	0.00	1000.00	0.00	600.00	0.00
Food Supplies	0.00	0.00	0.00	0.00	0.00	0.00
Equipment	0.00	0.00	0.00	0.00	0.00	0.00
Other	9419.00	0.00	12802.00	0.00	9727.00	0.00
Sub-totals	12819.00	78752.00	17802.00	102416.00	12327.00	77815.00
		<b>88171.00</b>		<b>120218.00</b>		<b>90142.00</b> Total IUP Costs
						<b>298531.00</b>
						<b>GRAND TOTAL</b>
						<b>500000.00</b>

IUP = Indiana University of Pennsylvania  
IUP RI = Indiana University of Pennsylvania Research Institute

Table 5a.

<b>JPL Budget – All Four Modules</b>	<b>Line Cost</b>
<b>Production Design &amp; Management</b>	<b>\$ 24,800</b>
Production Meetings	
Project Management	
Coordination & Scheduling	
<b>Writing</b>	<b>\$ 49,685</b>
Creative Development	
Instructional Design	
Multimedia/Video Script	
<b>Graphic Design</b>	<b>\$ 16,203</b>
Interface Design	
Stock Photography	
Still Photography	
Graphic Creation	
<b>Production</b>	<b>\$ 20,105</b>
DVC Pro EFP 1 Camera Location Package	
Silver Grip Package	
Teleprompter	
Casting Sessions & Talent Coordination	
Production Meetings and Creative Development	
Producer	
Tape Stock	
<b>Post-Production</b>	<b>\$ 19,030</b>
Narration Recording	
Effects Production	
Video Encoding	
Digital Video Editing	
Digital Audio Workstation	
<b>Interactive Development</b>	<b>\$ 40,520</b>
Flash development (screens & post test)	
Flash animations (practice exercises)	
SCORM programming (1.2)	
<b>Distribution</b>	<b>\$ 140</b>
CD Duplication (1 Master)	
<b>Additional Services &amp; Costs</b>	<b>\$ 30,986</b>
Quality assurance testing	
Voice talent (narration audio)	
Acting talent (video)	
Music License	
Sound Effects	
Logging Station	
Edit Tape Stock	
Location Fee	
Props, Wardrobe and Makeup	
Contingency Fee	
<b>TOTAL ALL MODULES</b>	<b>\$ 201,469</b>

**VII. Appendix A. Relevant Experience – Project Director**

**Shirley Hsi Sword, MS, RD, LDN**

**Office:** PA Dept of Health-Div of WIC, 2150 Herr Street, 1<sup>st</sup> Floor, Suite B; Harrisburg, PA 17103-1625;  
Primary Phone: 717/783-1289; Secondary Phone: 717/856-9689; Fax: 717/705-0462; Email:  
[ssword@state.pa.us](mailto:ssword@state.pa.us)

**Education:** 1985 MS Nutritional Sciences, University of Wisconsin, Madison  
1980 BS Human Nutrition – Dietetics, Iowa State University, Ames, Iowa

**Certification:** American Dietetic Association Member 571786

**Affiliations:**

<b>Date</b>	<b>Affiliation</b>	<b>Position</b>
8/2006 – Present	USDA VENA Implementation Group	Representative of NWA
7/2003 – 5/2006	USDA/NWA Joint Workgroup Chair, For VENA	Medical/Nutrition Assessment Subcommittee
5/2003 – 5/2005	National WIC Association	Board of Directors
5/2003 – Present	Pennsylvania Nutrition Education Network	Executive Committee
4/2003 – Present	Pennsylvania Advocates for Nutrition and Activity	Healthcare Leadership Team
5/1999 – Present	Messiah College Dept of Nutrition	Advisory Council

**Experience:**

<b>Date</b>	<b>Affiliation</b>	<b>Position</b>
2/2003 – Present	Pennsylvania Department of Health Division of WIC	Chief, Nutrition Services Section <b>Responsibilities:</b> Manage Nutrition Services for PA WIC Program
11/2000 – 2/2003	Pennsylvania Department of Health Division of WIC	State Nutrition Education Coordinator <b>Responsibilities:</b> Plan, develop, and conduct staff training throughout state. Policy interpretation to LA. Coordinate HemoCue system implementation.
2/1994 – 11/2000	Family Health Council of Central PA, Inc., Camp Hill, PA	Nutrition Education Coordinator; Lactation Specialist. <b>Responsibilities:</b> coordinate nutrition education activities for LA clinics serving 11 counties in central PA.
9/1991 – 5/1994	Pinnacle Health System – Woman Care East, Harrisburg, PA	Group facilitator. <b>Responsibilities:</b> Facilitate weekly support group for new mothers.

**VII. Appendix A: Relevant Experience – Principle Investigator**

**Stephanie A. Taylor-Davis, PhD, RD, LDN**

**Office:** Department of Food and Nutrition, Ackerman Hall, Room 10, Indiana University of Pennsylvania,  
Indiana, PA. Phone: 724-357-7733 or 724-357-4440 FAX: 724-357-3007.  
Email: [stdavis@iup.edu](mailto:stdavis@iup.edu)

**Education:** 1996 PhD Human Nutrition, Pennsylvania State University. Concentration:  
Community Nutrition/Nutrition Education

1991 MS Public Health Nutrition, Case Western Reserve University

**Certification:** 1991 American Dietetic Association Member 724110

2003 Licensed Dietitian-Nutritionist, State Board of Nursing, State of PA.

**Teaching Responsibilities:** Nutrition (majors and non-majors courses, including online/distance  
education), Methods of Teaching, Information Technology for Dietetic Professionals, Seminar  
(writing and presenting nutrition research).

**Experience:**

<b>Date</b>	<b>Affiliation</b>	<b>Position</b>
2003 – Present	Indiana University of PA	Associate Professor

1998 - 2003 Indiana University of PA Assistant Professor  
 1996 – 1998 Colorado State University Assistant Professor

**Samples of Professionally Related Experience:**

2004–Present Co-Director, Reflective Practice, Center for Teaching Excellence, Indiana University of PA.  
 2004-2005 Tripodi, R., George, N., Miller, H., and Taylor-Davis, S. (2004-2005 academic year). “Color Our School with a Rainbow of Health”. Highmark Blue Cross. Highmark Challenge for Healthier Schools Grant awarded (\$10,000) to the Indiana Area School District – Ben Franklin and East Pike Elementary schools.  
 1995-1996 Development Coordinator, Distance education course for the Pennsylvania State University.  
 1992 Assistant Researcher, “Development of a nutrition manual for PA day care providers”, at The Pennsylvania State University.  
 1990-1991 Public Health Nutritionist, Division of Public Health, State of Delaware.

**Samples of Professional Publications and Presentations:**

Taylor-Davis, S., and Woolcock, J. Understanding the Rhythms of Teaching and Learning. The *Teaching Professor Conference*, Nashville, TN, May 21, 2006.  
 Klein, D., Black, L.J., Taylor-Davis, S., Numan, M.Z., and Woolcock, J. Formative Dialogues: Safely Facilitating the Development of Pedagogical Skills in All Teachers. Workshop Presentation at the *Hawaii International Conference on Education*, Honolulu, HI, January 6, 2005.  
Taylor-Davis, S. “Creating a Collaborative Online Learning Environment”. Invited oral presentation as part of a panel discussion on the topic: “Building Better Learning Communities Online”. Taped Session #386 , CPE Level 1 at the annual meeting of the *American Dietetic Association – Food and Nutrition Conference and Expo* in Anaheim, CA. October 3, 2004.  
Taylor-Davis S. Educational Materials in Review: Healthy Living Program, Module 3: Diabetes & Healthy Living Program, Module 4: Hypertension. *Journal of Nutrition Education and Behavior*. 2004; 36(2):110-111.  
Taylor-Davis, S. (2003). The Health Benefits of Fruits and Vegetables: A Scientific Overview for Health Professionals. The Produce for Better Health Foundation. Used as evidence to support the Foundation’s testimony to the Dietary Guidelines Advisory Committee in January 2003.  
Taylor-Davis, S., Davis, A.C., and Donnelly, R. WebCT and the Case Study Connection. Oral presentation at the *Society for Nutrition Education 2000* annual meeting, Charleston, SC, July 25, 2000.  
Taylor-Davis, S., Davis, A.C., and Nelson, G. Communicating Relationships of Calcium, Vitamin D, and Osteoporosis: An Animated, Web-based, Interactive Learning Module. Oral presentation at the *Society for Nutrition Education 1999* annual meeting, Baltimore, MD, July 26, 1999.

**VII. Appendix A. Relevant Experience - Investigator**

**Mia M. Barker, PhD**

**Office:** Department of Food and Nutrition, Ackerman Hall, Room 10, Indiana University of Pennsylvania, Indiana, PA. Phone: 724-357-3283 or 724-357-4440 FAX: 724-357-3007.  
 Email: [mabarker@iup.edu](mailto:mabarker@iup.edu)

**Education:** 1976 PhD The University of Tennessee at Knoxville Major: Food Science  
 1971 BS The University of Tennessee at Knoxville Major: Food Science, undeclared majors: nutrition and foodservice management

**Teaching Responsibilities:** Introductory Foods, Experimental Foods, Food and Culture (including online/distance education), and Macronutrients (proteins, fats and carbohydrate metabolism).

**Experience:**

<u>Date</u>	<u>Affiliation</u>	<u>Position</u>
1994 – Present	Indiana University of PA	Professor
1985 - 1994	Indiana University of PA	Associate Professor
1981 – 1985	Indiana University of PA	Assistant Professor

**Samples of Professionally Related Experience:**



1982 - 1998 Obtained 14 IUP Faculty Research Grants. Projects ranged from portion estimation skills, computerized testing, cognitive characteristics of students related to success in school, food selection of obese versus normal weight individuals, dietary pectin and its effects on blood glucose levels, and science review modules for food and nutrition students.

**Samples of Professional Publications and Presentations:**

- 2003 & 2000 Instructor's Resource Manual for Amy Brown's Introductory Foods. Published by Wadsworth/Thomson Learning, Belmont, CA. Wrote first and co-authored second edition. Association of Food and Agriculture. Crossing Borders. Toronto, Canada. Food interest Network: A Small Town in Rural Pennsylvania. Barker, Mia M., Campbell, M.L., and Barker, W. F. (Oral Research Paper) (June 1999).
- Association for the Study of Food and Society, San Francisco, CA. Barker, W.F., Barker, M.M., and Campbell, M.L. (1998). Predictors of student success in foods classes. (Oral Research Paper). (June, 1998).
- Association for the Study of Food and Society, San Francisco, CA. Barker, M.M., Campbell, M.L., and Barker, W.F. (1998). ".....and all that has life requires nourishment." (Oral Research Paper). (June, 1998).
- Association for the Study of Food and Society, Madison, WI. Barker, W.F., Barker, M.M., and Campbell, M.L. (1997). A statistical model for analysis of the introductory foods course. (Oral Research Paper). (June, 1997).

**VII. Appendix A. Relevant Experience - Evaluator**

**William F. Barker, PhD**

**Office:** Educational and School Psychology, Stouffer Hall, Room 246, Indiana University of Pennsylvania, Indiana, PA. Phone: 724-357-3782 or 724-357-2316 FAX: 724-357-6946. Email: [barker@iup.edu](mailto:barker@iup.edu).

**Education:** 1982 PhD University of Pennsylvania, Double Major: (1) Measurement, Statistics, and Research Design, (2) Human Learning and Development.  
 1969 MS University of Wisconsin – Milwaukee. Major: Educational Psychology.  
 1967 BS University of Wisconsin – Milwaukee. Major: Mathematics.

**Teaching Responsibilities:** Educational Tests and Measurements (undergraduate), Elements of Research (including online/distance education), Applied Educational Research, Doctoral Seminar in Educational Research I & II.

**Experience:**

<b>Date</b>	<b>Affiliation</b>	<b>Position</b>
1991 – Present	Indiana University of PA	Professor (11 years as chair)
1985 - 1995	Indiana University of PA	Associate Professor
1984 – 1985	East Carolina University	Associate Professor
1977 – 1985	Beaver College	Assistant then Associate Professor

**Sample of Professionally Related Experience:**

1999 – 2002 **Evaluation Coordinator:** Preparing Tomorrow's Teachers to Use Technology  
 The Advancing the Development of Educators in Pennsylvania through Technology Training (ADEPTT) consortium, representing three public universities located in rural, economically disadvantaged communities, received **\$1,703,848** to implement a model for infusing technology throughout pre-service teacher education core curriculum. Some 1,500 future teachers per year placed throughout the U.S. and seven foreign countries were affected by this change. Four goals were accomplished: 1) Instructional Technology was moved from the periphery to the core of our curriculum. 2) Future teachers applied and integrated Instructional Technology into the teaching/learning process, 3) Additional faculty, instructional designers and technical support staff assisted with the transition, and 4) The consortium provided the infrastructure support needed for teacher preparation in the digital age. Evaluation strategies included baseline and follow-up surveys, student portfolios, interviews and focus groups.

### **Samples of Professional Publications and Presentations:**

Smedley, M., Levinson, E. M., Barker, W. F., & DeAngleis, D. L. (2003). Differences in career maturity among adjudicated and non-adjudicated male students with and without disabilities. *Journal of Employment Counseling*, 40, 108-122.

Anderson, V., Levinson, E. M., Barker, W. F., & Kiewra, K. (1999). The effects of meditation on teacher perceived occupational stress, state and trait anxiety, and burnout. *School Psychology Quarterly*, 14(1), 3-25.

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### **VII. Appendix A: Relevant Experience – IUP Team Collaborative Efforts**

2005-Present Sword, S., Taylor-Davis, S., Barker, M.M., and Barker, W.F. Development and Evaluation of Guided Goal Setting (GGS) as a Behavior Change Approach and Monitoring Protocol in Pennsylvania WIC. FY05 WIC Special Project Grant. Funded - \$370,000. United States Department of Agriculture – Food and Nutrition Service Contract Agreement No. WISP-05-PA-1. Effective Funding Dates [September 30, 2005 – September 30, 2008].

- 5 Presentations at PA WIC State meetings

Sword, S., Taylor-Davis, S., Barker, M.M., and Barker, W.F. Pennsylvania WIC Evaluation: Guided Goal Setting (GGS) as a Behavioral Change Approach to Improve Nutrition and Health of WIC Participants. Presented at the WIC Special Project Grants, Fiscal Years 2005, 2004, & 2003 Meeting, USDA FNS Park Center, Alexandria, VA, April 28, 2006.

Bailey, R., Davis, M.S., Taylor-Davis, S., Barker, M.M., and Barker, W.F. Web Training: Start Early. *Journal of the American Dietetic Association* 2003; 103:973-974.

Davis, M.S., Taylor-Davis, S., Barker, M.M., and Barker, W.F. Skills, Perceptions and Applications of Internet Technology Among Nutrition Professionals in Pennsylvania. *Topics in Clinical Nutrition* 2004; 19(2): 164-170



# Luke Kempski

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<b>Education</b>	Penn State University M. Ed., Training and Development	1995
	Wilmington College B.A., Communications	1986
<b>Current Experience</b>	<b>President</b> JPL Productions	June 2000 – present
	Serve on three-person executive team making and managing company wide decisions. Responsible for all media production operations, including all of company's revenue generation operations. Lead the department managers and other group leaders to develop and execute goals and strategies in line with company goals. Lead streaming media and webcasting business development efforts. Lead e-Learning business development efforts.	
	<b>Director, Multimedia Services</b> JPL Productions	1994 – June 2000
	Managed the development teams for web site, CD-ROM and computer based training applications. Developed and managed project budgets ranging from \$30,000 to \$200,000. Coordinated the allocation of graphic design, media production and programming resources on multiple projects. Served as the lead information designer on web site development and instructional programs. Led company in expanding our service offerings into new technology fields such as webcasting. Led the fastest growing business area in the company; responsible for staffing, performance improvement, business development and quality control in this area	
<b>Writer/Producer</b> JPL Productions	1989 - 1994	
Consulted with clients, proposed budgets and concepts, wrote scripts, directed recording and editing sessions and managed productions. Produced employee communications, training, marketing, fundraising and public relations programs. Manager of five-person creative services department.		
<b>Video Specialist</b> Ametek, Inc.	1987 - 1989	

Wrote, produced, and edited corporate media programs for this Fortune 500 manufacturing company based in Paoli, Pennsylvania. Performed all creative, technical and administrative tasks in the production of 50 programs in two years.

**Writer/ Producer**

Marcom Group Ltd.

1985 - 1987

Served as associate producer and writer of safety training videos. Participated in all aspects of video productions.

# Steve Hulse



**Education**

Penn State University	1985
M.Ed., Teaching and Curriculum	
University of Maryland	1975
B.S., Radiologic Technology	

**Current Experience**

**Manager, e-Learning**

JPL Productions

2001 – present

Develop department goals/strategies each year that are in-line with company goals and needs of key customers. Align goals of individual team members with e-Learning department. Communicate goals to executive team, e-Learning team, other managers and the company as a whole to gain support in accomplishing them. Design instruction for corporations, government and associations.

**Interim Director, Biomedical Communications**

Penn State College of Medicine

2000-2001

Managed department budget, set department financial goals, provided creative direction for photographers, videographers, graphic and web designers, and instructional designer.

**Instructional Design Specialist**

Penn State College of Medicine

1986-2000

Worked with clients to design, develop and implement video, web, and multimedia solutions within budget constraints. Developed applications using Macromedia Director and Assymterix Toolbook. Provided e-Learning expertise and guidance to clients and other team members.

**Program Coordinator,  
Radiologic Technology Program**

Maintained accreditation with professional agencies. Directed staff of academic and clinical instructors.

## Neal B. Quesinberry

### Objective

To apply my project management, instructional design, and technical writing skills in the collaborative development of e-Learning projects

### Experience

#### Instructional Designer/Project Manager: e-Learning

July 2004-Present JPL Productions Inc.

Harrisburg, PA

- Developing instructional design & multimedia scripts for various companies including: the Hershey Company, Giant Food Stores LLC, Highmark Inc, Empire Medical Services, Plan Data Management, SnowTime Inc., Herley Industries, Glatfelter Paper, Response Design, TVC Communications, CIBER Inc., & York International
- Producing instructional design & multimedia scripts for government & non-profit organizations including: Dickinson College, Penn State University College of Medicine, Pennsylvania's Department of Environmental Protection, Institute for Caregiver Education, Professional Recyclers of Pennsylvania, Pennsylvania Continuing Legal Education Board, Pennsylvania Medical Society & Pennsylvania Department of Transportation
- Teaching classroom instruction to clients on software applications & basic instructional design
- Assisting in the development of Quality Assurance standards
- Created the Writers' group at JPL Productions to facilitate a proactive approach to writing issues

#### Consultant: Web Developer, Technical Writer/Editor, Graphic Designer & Illustrator

January 1996-Present

Nomadman Design

- Creating user-friendly Web sites for diverse companies & organizations
- Developing numerous logos & designs
- Editing & writing marketing materials & technical documentation
- Writing grants for non-profits and environment causes
- Contracted as the Technology Director for Family & Corrections Network (2002-2003)
  - Designed FCN's Web site in collaboration with FCN's Executive Director
  - Developed design templates for the FCN Report & created various illustrations
  - Proofread/edited books & reports
- Contracted as the Internet Sales Manager/Advertising Director for Basic Auto Sales (Winter & Spring 2004)
  - Generating automotive sales through the Internet via www.basicautosales.com, AutoTrader, & eBay
  - Developing & maintaining four Web sites used for company databases & Internet sales
  - Creating & distributing advertisements for print media, radio & television advertisements
  - Managing employees associated with internet sales & marketing/advertising
  - Assisting in the creation & implementation of a human resource management system

#### Technical Writer, Illustrator, Web Developer & Instructional Designer

March 2002-July 2002 G3Media Inc.

Wilmington, NC

- Collaborated with Technology Director to design & implement mill-wide training modules for Georgia-Pacific Intranet system
  - Produced documentation & job analysis on Georgia-Pacific employees
  - Developed training database
  - Created illustrations, schematics, & 3D graphics for the pulp & paper industry

#### Web Developer, Technical Writer, Illustrator & Instructional Designer

October 1999-April 2001 Delta Training Partners Inc.

Wilmington, NC

- Helped design & maintain various corporate Intranet & Internet Web sites
- Developed multimedia computer-based training for Corning Fiber Optics, KoSa, General Electric, Dupont, Northstar Telecommunications, & GlaxoSmithKline
- Collaborated with illustrators & technical writers to help develop an Intranet-based training system for Corning Fiber Optics
- Produced 2D & 3D illustrations for the pulp & paper & telecommunications industries
  - Assisted in the development of computer-based training for the pulp & paper industry

## Education

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**M.A. English** Emphasizing courses in literature, contemporary theory & technology GPA 3.93  
May 1996-May 1999 Virginia Polytechnic Institute & State University Blacksburg, VA

**B.A. English** Minors: Liberal Arts, Communications & Biology  
August 1989- December 1995 Virginia Polytechnic Institute & State University Blacksburg, VA

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## Skills

### Technical Applications:

- Dreamweaver, Fireworks, Flash, Freehand, Authorware, Captivate
- Illustrator, Photoshop, PageMaker, Acrobat, FrameMaker
- Microsoft Project, Visio, Access, Publisher, Front Page, Office XP
- Corel Graphic Suite 11, Word Perfect, Quark
- Real 3D, 3D Studio Max, Autocad
- Cool Edit, Goldwave, Audio Catalyst, Sound Forge
- Articulate Presenter, Articulate Quizmaker

### Writing:

- Instructional design & narration scripts
- Technical writing/editing/proofreading
- HTML, CSS, XML, & JavaScript
- Job/task/data analysis
- Proposals/Grants
- Desktop publishing
- Journalism, marketing & ad copy

## VII. Appendix B. Letters of Commitment from Supervisors of Key Personnel

From Susan Dahlheimer –

# Indiana University of Pennsylvania

Department of Food and Nutrition  
Ackerman Hall, Room 14  
911 South Drive  
Indiana, Pennsylvania 15705-1037

724-357-4440  
Fax: 724-357-7582  
Internet: <http://www.iup.edu/fn/>

March 27, 2007

Shirley Sword, MS, RD, LDN  
Chief Nutrition Services Section, WIC  
Division of Women, Infants and Children (WIC)  
PA Department of Health  
2150 Herr Street; 1<sup>st</sup> Floor, Suite B  
Harrisburg, PA 17103-1625


Dear Ms. Sword:

Drs. Stephanie Taylor-Davis and Mia M. Barker of the Department of Food and Nutrition have discussed their participation in the FY2007 Special Project Grant for WIC with the dean of the College of Health and Human Services and with me. The proposed project "QWIC LEARN (Local, Efficient, Accessible, Responsive, Nutrition Education) - Moving Learning Forward in Pennsylvania," involves the development of e-Learning modules to support staff training for skill-based competence in Value Enhanced Nutrition Assessment.

This project is an excellent opportunity for Stephanie and Mia to contribute their expertise and experience. Such projects are a fine professional opportunity for the faculty participants, as well as an opportunity for them to model leadership in nutrition assessment and intervention. In addition, we hope that it will afford our graduate students experience in the research process.

I look forward to this project and the benefits that its products and research component will bring to WIC and to the nutrition community as a whole.

Sincerely,

  
Susan S. Dahlheimer, PhD, RD, FADA  
Professor and Chair  
Department of Food and Nutrition

**VII. Appendix B. Letters of Commitment from Supervisors of Key Personnel**

From Carleen Zoni, Dean of College

# Indiana University of Pennsylvania

Dean, College of Health and Human Services  
Zink Hall, Room 216  
1190 Maple Street  
Indiana, Pennsylvania 15705-1059

724-357-2555  
Fax: 724-357-6205  
Internet: <http://www.iup.edu>

March 27, 2007

Shirley Sword, MS, RD, LDN  
Chief Nutrition Services Section, WIC  
Division of Women, Infants and Children (WIC)  
PA Department of Health  
2150 Herr Street; 1<sup>st</sup> Floor, Suite B  
Harrisburg, PA 17103-1625

Dear Ms. Sword:

Drs. Stephanie Taylor-Davis and Mia M. Barker of the Department of Food and Nutrition have discussed their participation in the FY2007 Special Project Grant for WIC with the Chairperson of Food and Nutrition and with me. The proposed project "QWIC LEARN (Local, Efficient, Accessible, Responsive, Nutrition Education) - Moving Learning Forward in Pennsylvania," involves the development of e-Learning modules to support staff training for skill-based competence in Value Enhanced Nutrition Assessment.

With their expertise in nutrition assessment and intervention, Stephanie and Mia will be able to make a significant contribution to WIC and the nutrition community in general through this project. Such projects are an excellent professional opportunity for the faculty involved and also make it possible to enhance our students' research experience.

I endorse this project and look forward to the benefits it will bring to IUP, to the College, and to the field of nutrition.

Sincerely,



A handwritten signature in cursive script that reads "Carleen C. Zoni".

Carleen C. Zoni, Ph.D., R.N.  
Dean  
College of Health and Human Services



**VII. Appendix B. Letters of Commitment from Supervisors of Key Personnel**



March 9, 2007

Veronica G. Ferrell  
Grants Officer  
Food and Nutrition Service, USDA  
Grants Management Division  
WIC Special Project Grants  
3101 Park Center Drive, Room 738  
Alexandria, Virginia 22302

Dear Ms. Ferrell:

As Shirley Sword's supervisor at the Pennsylvania Department of Health, Division of WIC, I offer my commitment for her time to the proposed QWIC LEARN project over the course of the next three years. Shirley will be coordinating the activities of this project as part of her normal duties as Chief of Nutrition Services.

This project has great potential for forwarding Value Enhanced Nutrition Assessments (VENA) in the state of Pennsylvania, and sets the stage for consistent, quality staff training to each and every staff person. e-Learning has not been formally considered in our state before as a viable means of training, but improving staff competencies via a formalized curriculum such as what is being proposed would ultimately have far-reaching benefits to our participants as well as LA staff. Ms. Sword has been intimately involved with the development and implementation of the VENA initiative, and I believe that her experience will prove invaluable in the development of these modules. The benefits of e-Learning in terms of its accessibility, consistency and cost-effectiveness are well-documented in the literature, and the partnership between the WIC State Agency, Indiana University of Pennsylvania and JPL Productions, Inc. is sure to produce a high-quality product.

Thank you for your consideration. If you have any questions regarding this matter, please feel free to contact me.

Sincerely,

Frank C. Maisano  
Director, Division of Women, Infants and Children (WIC)

**VII. Appendix B. Letters of Commitment from Supervisors of Key Personnel**

From JPL

March 12, 2007

Shirley H. Sword, MS, RD, LDN  
Pennsylvania Department of Health  
Division of WIC  
2150 Herr Street  
1<sup>st</sup> Floor, Suite B  
Harrisburg, Pennsylvania 17103-1625

Dear Ms. Sword:

JPL Productions, Inc. would like to offer its support of your proposed Special Project Grant to develop an e-Learning solution for local agency staff in Pennsylvania WIC. More specifically, we are committed to developing four modules related to USDA's Value Enhanced Nutrition Assessment (VENA) initiative that will provide WIC staff with consistent messages delivered in a multi-media format in a highly interactive manner.

We understand that this will be a three year proposal, with our involvement primarily consisting of working in partnership with staff from Indiana University of Pennsylvania and you by providing instructional design expertise in the development and production of the modules.

We view this as an exciting opportunity to assist the state of Pennsylvania in implementation of VENA and to developing materials that will engage your learners and have the ability to track their progress as they improve their skills and competencies in conducting WIC assessments. We look forward to working with you.

Sincerely,

A handwritten signature in black ink that reads "Luke Kempinski". The signature is written in a cursive, flowing style.

Luke Kempinski  
President

## VII. Appendix C. References

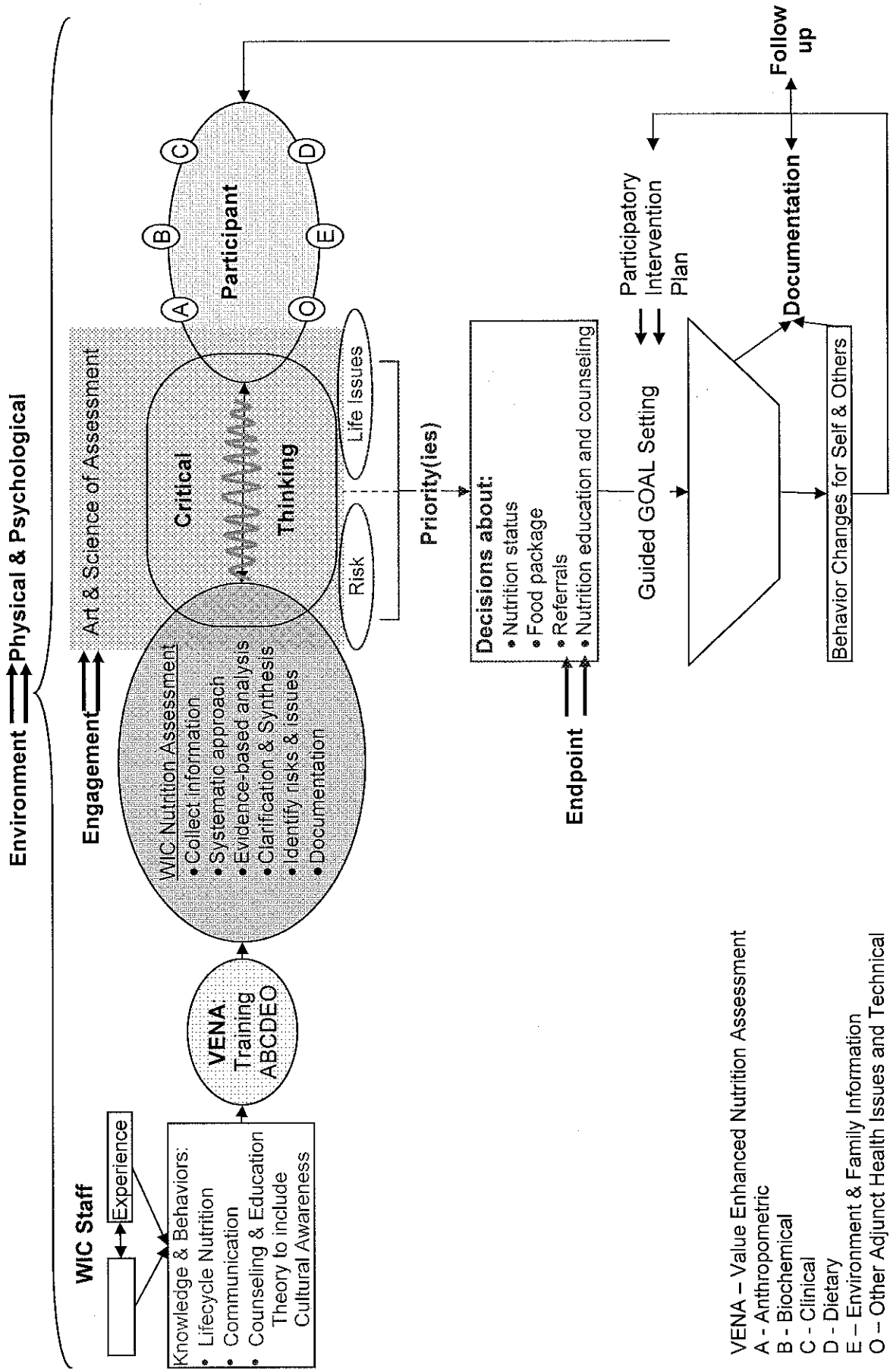
1. US Department of Agriculture, Food and Nutrition Service. "Value Enhanced Nutrition Assessment: The First Step in Quality Nutrition Services, A Guide to the Art and Science of WIC Nutrition Assessment".
2. Request for Applications for Full Grants FY2007 WIC Special Project Grants. USDA Food and Nutrition Service, Grants Management Division.
3. Gluckman, S. Using technology to enable competency management. *Chief Learning Officer Magazine*. Accessed on 2/26/2007 at [www.clomedia.com](http://www.clomedia.com)
4. Ruiz, JG, Mintzer, MJ, and Leipzig, RM. The impact of e-Learning in medical education. *Academic Medicine* 2006; 81(3):207-212.
5. Harun, MH. Integrating e-Learning into the workplace. *Internet and Higher Learning* 2002; 4:301-310.
6. Halpern, D. (1996) "Thought and Knowledge: An Introduction to Critical Thinking". Lawrence Erlbaum Associates; Mahwah, NJ.
7. WIC Faces Challenges in Providing Nutrition Services (GAO-02-142, December 7, 2001). United States General Accounting Office, Washington, DC.
8. Sword, S., Taylor-Davis, S., Barker, M.M., and Barker, W.F. Development and Evaluation of Guided Goal Setting (GGS) as a Behavior Change Approach and Monitoring Protocol in Pennsylvania WIC. FY05 WIC Special Project Grant. Funded - \$370,000. United States Department of Agriculture – Food and Nutrition Service Contract Agreement No. WISP-05-PA-1. Effective Funding Dates [September 30, 2005 – September 30, 2008].
9. Killion, J. Log on to learn: To reap benefits of online staff development, ask the right questions. *Journal of Staff Development*. 2000 (21(3)). Accessed on 2/26/2007 at [www.nsd.org/library/publications/jsd/killion213.cfm](http://www.nsd.org/library/publications/jsd/killion213.cfm)

**VII. Appendix D. Tables and Figures**

Table 1.

Staff training via e-Learning will help to address challenges facing the WIC program by facilitating and reinforcing VENA implementation.

<b><i>Challenge Facing the WIC Program</i></b>	<b><i>Staff Training via e-Learning Characteristic or Attribute</i></b>
<b>Assessing the effect of nutrition services</b>	Inherent is the ability to identify more specific staff competency strengths and short-comings; Ability to track staff achievement rates across a more stringent, standardized and consistent criterion.
<b>Improving WIC's ability to respond to emerging health issues</b>	Once the e-Learning format delivery system is established, it will be adaptable to accommodate any topic area (e.g., communication, breastfeeding promotion). Staff training time commitment and burden will be reduced (e.g., reduced travel time, less clinic down time) while achieving the desired and more consistent end result.
Strengthen its nutrition education component	Improving the accuracy and efficiency in WIC Nutrition Assessment will improve the data and information used to determine, tailor, and provide nutrition education services.
Adopt a more behavioral approach in nutrition counseling	e-Learning modules will be developed using behavior change for staff as a primary outcome.
Be more participant-oriented	Using the interactive features of e-Learning, modules will be designed to promote a nutrition assessment process and staff competency that will be participant-centered and individualized; collaborative and interactive; and may foster a positive rapport between staff and participants which should aid in the collection of more accurate and relevant information
Focus on healthy behaviors in life	Well designed e-Learning allows for broader distribution of a consistent assessment process across the system to deliver a consistent health outcomes message that has behaviorally-based goals.



- VENA – Value Enhanced Nutrition Assessment
- A - Anthropometric
- B - Biochemical
- C - Clinical
- D - Dietary
- E – Environment & Family Information
- O – Other Adjunct Health Issues and Technical

Figure 1. Best practices model for WIC nutrition services

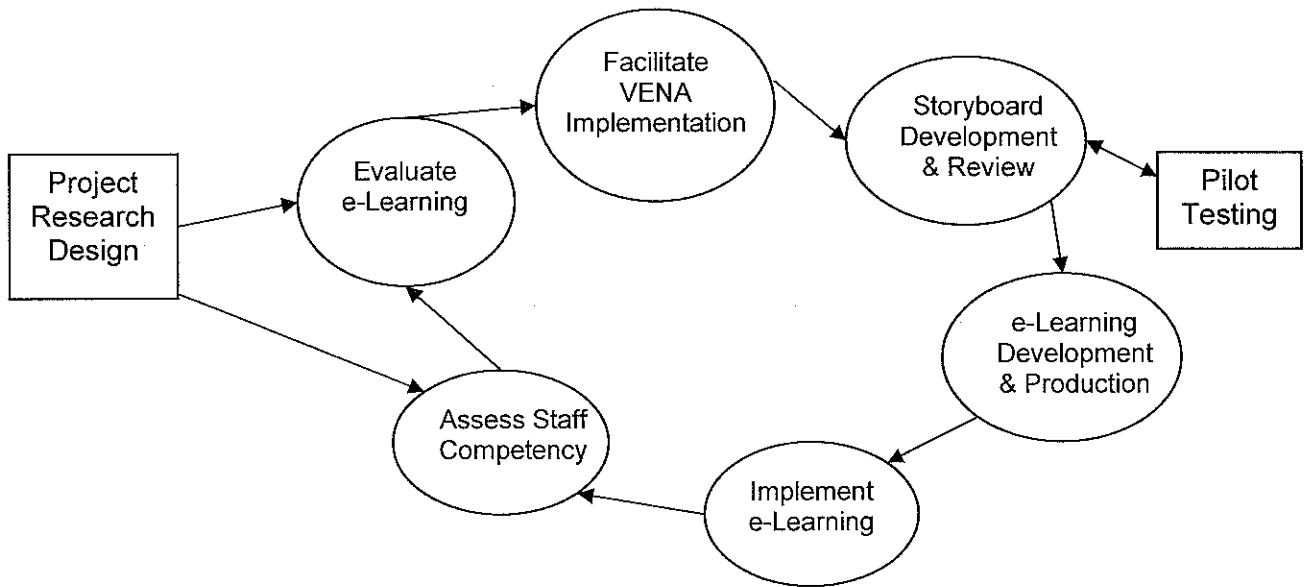


Figure 2. Cyclical nature of interrelated goals for Years 1-3.

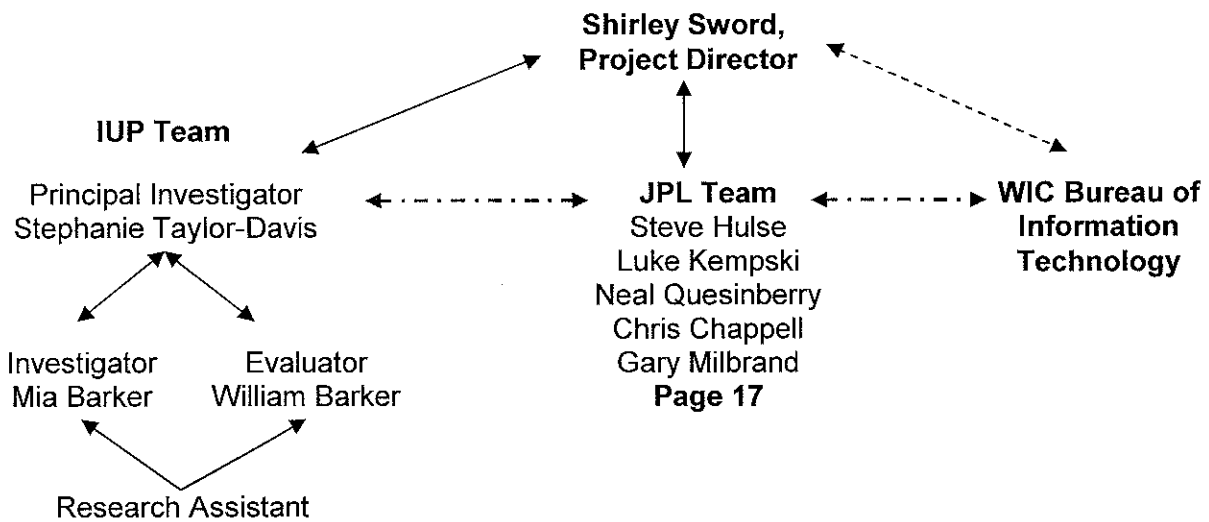


Figure 6. Organizational chart.

**Table 3. Task Table**

Narrative can be found in Sections II. B. Goals and III. B. Research Design.

#	Name	Description	Begin	End	Responsible Person(s)
<b>Year 1 -----</b>					
1	Get Organized	Work with the university to arrange space, logistics, and personnel	10-1-07	11-15-07	PI- Stephanie Taylor-Davis (ST-D)
2	Congruence Analysis	Assess the degree of congruence between USDA SPG – FY 2005 - PA WIC state of being results and VENA Standards	11-15-07	2-28-08	Shirley Sword (SS) – PA WIC/ Stephanie Taylor-Davis, Mia M. Barker, & William F. Barker (IUP Team)
3	Year 1- Quarter 1 - Report	Produce reports describing accomplishments and expenditures during the quarter.	1-1-08	2-1-08	SS will compile based on IUP (prepared by PI – ST-D) and JPL Team submissions
4	VENA Module - Case Study Information	Identify priority areas for case study development using the Congruence Analysis.	3-1-08	7-1-08	IUP Team
5	VENA Module – Storyboard	Develop the VENA Overview Module storyboard	3-1-08	7-1-08	IUP Team JPL Team SS
6	VENA Module – Tests	Develop the VENA Overview Module tests	3-1-08	7-1-08	IUP Team
7	Year 1- Quarter 2 - Report	Produce reports describing accomplishments and expenditures during the quarter.	4-1-08	5-1-08	SS will compile based on IUP (prepared by PI – ST-D) and JPL Team submissions
8	VENA Module – Production	Module Production	6-1-08	11-1-08	JPL Team
9	Anthropometric Module - Case Study Information	Identify priority areas for case study development using Height/Length, Weight, Head Circumference assessment	7-1-08	11-1-08	IUP Team SS
10	Anthropometric Module – Storyboard	Develop the Anthropometric Module storyboard.	7-1-08	11-1-08	IUP Team JPL Team SS
11	Anthropometric Module – Tests	Develop the Anthropometric Module tests.	7-1-08	11-1-08	IUP Team
12	Year 1- Quarter 3 - Report	Produce reports describing accomplishments and expenditures during the quarter.	7-1-08	8-1-08	SS will compile based on IUP (prepared by PI – ST-D) and JPL Team submissions
<b>Year 2 -----</b>					
13	Year 1- Quarter 4 – Report	Produce reports describing accomplishments and expenditures during the quarter.	10-1-08	11-1-08	SS will compile based on IUP (prepared by PI – ST-D) and JPL Team submissions
14	VENA Module - Pilot Testing	Test the VENA Module using selected PA WIC Nutritionists.	11-1-08	12-1-08	IUP Team
15	Anthropometric Module - Production	Module Production	10-1-08	3-1-09	JPL Team

16	Dietary Module - Case Study Information	Identify priority areas for case study development using Dietary Evaluation Tool assessment	11-1-08	3-1-09	IUP Team SS
17	Dietary Module – Storyboard	Develop the Dietary Module story board.	11-1-08	3-1-09	IUP Team JPL Team SS
18	Dietary Module – Tests	Develop the Dietary Module tests.	11-1-08	3-1-09	IUP Team
19	VENA Module – Product Delivery	Revisions and final Product Delivery	12-1-08	1-1-09	IUP Team JPL Team
20	Year 2- Quarter 1 – Report	Produce reports describing accomplishments and expenditures during the quarter.	1-1-09	2-1-09	SS will compile based on IUP (prepared by PI – ST-D) and JPL Team submissions
21	VENA Module – Selected WIC Staff Trial	Data are collected.	1-1-09	5-1-09	PA WIC IUP Team
22	Dietary Module – Production	Module Production	2-1-09	7-1-09	JPL Team
23	Anthropometric Module - Pilot Testing	Test the Anthropometric Module using selected PA WIC Nutritionists.	3-1-09	4-1-09	IUP Team
24	Biochemical / Clinical Module - Case Study Information	Identify priority areas for case study development using biochemical and clinical issues	3-1-09	8-15-09	IUP Team SS
25	Biochemical / Clinical Module – Storyboard	Develop the Biochemical / Clinical Module story board.	3-1-09	8-15-09	IUP Team JPL Team SS
26	Biochemical / Clinical Module – Tests	Develop the Biochemical / Clinical Module tests.	3-1-09	8-15-09	IUP Team
27	Year 2- Quarter 2 – Report	Produce reports describing accomplishments and expenditures during the quarter.	4-1-09	5-1-09	SS will compile based on IUP (prepared by PI – ST-D) and JPL Team submissions
28	Anthropometric Module – Product Delivery	Revisions and final Product Delivery	4-1-09	5-1-08	IUP Team JPL Team
29	VENA Module – Evaluation	Data are analyzed.	5-1-09	6-1-09	IUP Team
30	Anthropometric Module – Selected WIC Staff Trial	Data are collected.	5-1-09	9-1-09	SS IUP Team
31	Dietary Module - Pilot Testing	Test the Dietary Module using selected PA WIC Nutritionists.	7-1-09	8-1-09	IUP Team
32	Year 2- Quarter 3 – Report	Produce reports describing accomplishments and expenditures during the quarter.	7-1-09	8-1-09	SS will compile based on IUP (prepared by PI – ST-D) and JPL Team submissions
33	Biochemical / Clinical Module – Production	Module Production	7-15-09	12-15-09	JPL Team
34	Dietary Module – Product Delivery	Revisions and final Product Delivery	8-1-09	9-1-09	IUP Team JPL Team
35	Anthropometric Module - Evaluation	Data are analyzed.	9-1-09	10-1-09	IUP Team



36	Dietary Module – Selected WIC Staff Trial	Data are collected.	9-1-09	1-1-10	PA WIC IUP Team
<b>Year 3 -----</b>					
37	Year 2- Quarter 4 – Report	Produce reports describing accomplishments and expenditures during the quarter.	10-1-08	11-1-08	SS will compile based on IUP (prepared by PI – ST-D) and JPL Team submissions
38	Environmental Module - Case Study Information	Identify priority areas for case study development using environmental and family factors	11-1-09	3-1-10	IUP Team SS
39	Environmental Module – Storyboard	Develop the Environmental Module story board.	11-1-09	3-1-10	IUP Team
40	Environmental Module – Tests	Develop the Environmental Module tests.	11-1-09	3-1-10	IUP Team
41	Biochemical / Clinical Module - Pilot Testing	Module will be tested using selected PA WIC Nutritionists.	12-15-09	2-1-10	IUP Team
42	Dietary Module - Evaluation	Data are analyzed.	1-1-10	2-1-10	IUP Team
43	Year 3- Quarter 1 – Report	Produce reports describing accomplishments and expenditures during the quarter.	1-1-10	2-1-10	SS will compile based on IUP (prepared by PI – ST-D) and JPL Team submissions
44	Biochemical / Clinical Module – Product Delivery	Revisions and final Product Delivery	2-1-10	3-1-10	IUP Team JPL Team
45	Biochemical / Clinical Module – Selected WIC Staff Trial	Data are collected and analyzed.	3-1-10	7-1-10	PA WIC IUP Team
46	Other Module-Case Study Information	Identify priority areas for case study development using for example oral health, food security, etc.	3-1-10	7-1-10	IUP Team SS
47	Other Module – Storyboard	Develop the Other Module story board.	3-1-10	7-1-10	IUP Team
48	Year 3- Quarter 2 – Report	Produce reports describing accomplishments and expenditures during the quarter.	4-1-10	5-1-10	SS will compile based on IUP (prepared by PI – ST-D) and JPL Team submissions
49	Anthropometric Module - Evaluation	Data are analyzed.	7-1-10	8-1-10	IUP Team
50	Year 3- Quarter 3 – Report	Produce reports describing accomplishments and expenditures during the quarter.	7-1-10	8-1-10	SS will compile based on IUP (prepared by PI – ST-D) and JPL Team submissions
51	e-Learning Evaluation	Overall evaluation of the modules produced	8-1-10	9-1-10	PA WIC IUP Team
52	Final Report	Summarize it all	9-1-10	10-1-10	IUP Team

VII. Appendix E. Rationale and Framework for Module Development

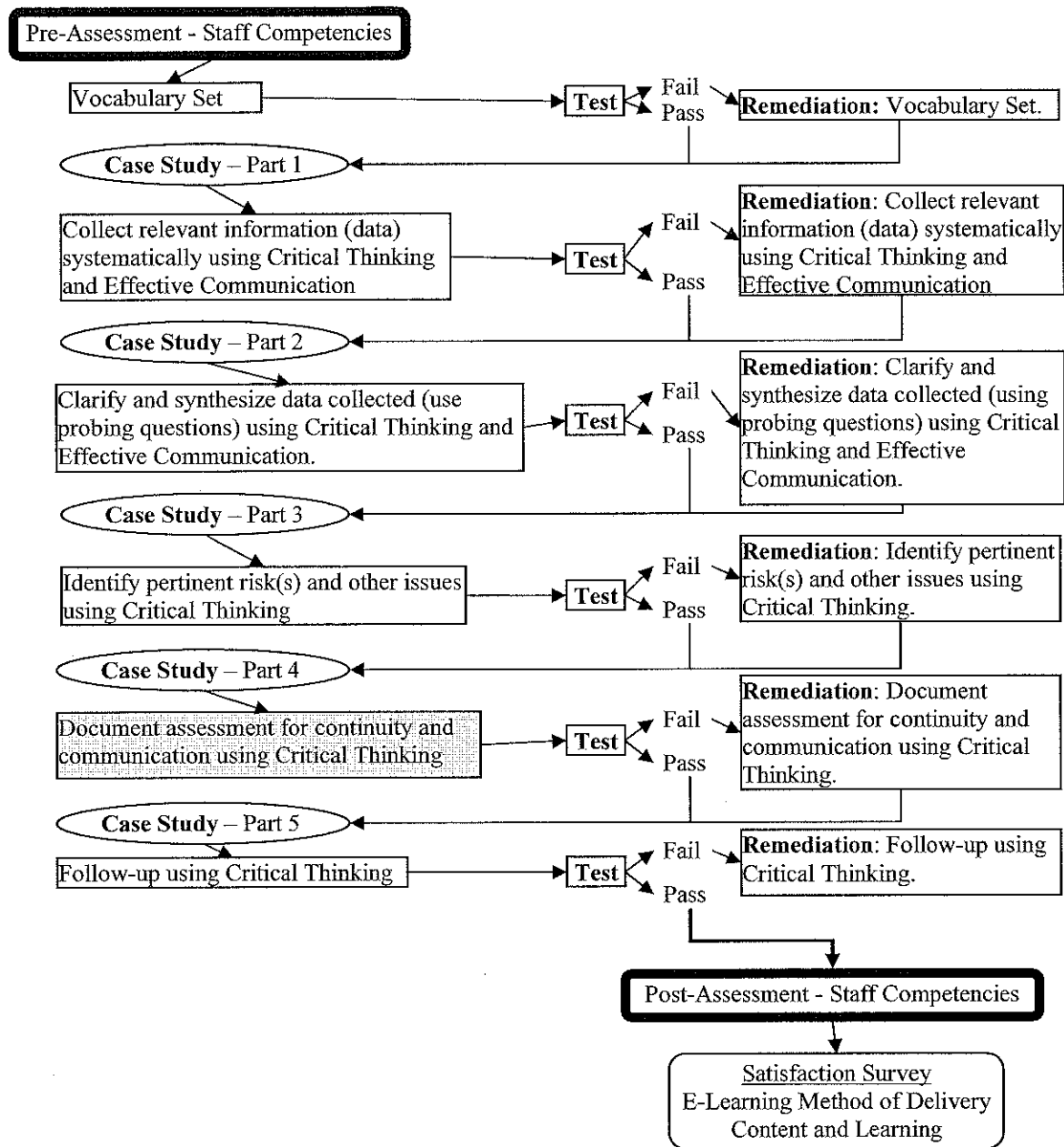


Figure 7. Module structure for WIC nutrition assessment: Anthropometric, Biochemical, Clinical, Dietary, Environment, and Other.

Table 5. Storyboard Matrix Format.

IUP			JPL							
Instructional Objectives	Content	Learning Experience	Screen #	Screen Objectives	Text	Narration	Visual Assets	Program Instructions	Other	