

Motivational Design Project

Applying the ARCS Model for Motivational Design

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MIT501 Summer 2011

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Section 1: Course Information

Course Title

Energy Balance: Fundamental Basis for Weight Control

Course Description

This module is the first in a potential series of modules being created for use by the WIC (Women, Infants and Children) Health Program. The series of modules will all pertain to food, nutrition and living a healthy life style. This particular module focuses on managing a healthy energy balance by reading food labels and better understanding the benefits and dangers associated with nutrition. Because it is the first in the series, it will be piloted across the New Hanover WIC Program to ensure success before the others are created.

Purpose of Course

After completing the course, learners will be able to:

- Manage a healthy energy balance (homeostasis)
- Determine their ideal caloric level
- Manage a healthy metabolic rate
- Adopt the practice of reading food labels
- Adopt the practice of eating according to appetite, not hunger

New or Existing?

This is a brand new course that has been created for use in the WIC program. It has not been tested or evaluated yet. It is still in the developmental stages.

Logistical Considerations

After development, the course will be deployed early this fall within the WIC Program. It will be used over and over again, as participants come into the office. Because it will be in pilot status, no modifications will be made until the pilot testing is over, which will occur in the late fall. At that time, the team will evaluate the module's use within WIC and decide to make any further changes at that time.

Time Allotted for Revisions

The new version of this module will be released in September 2011. We can expect approximately four weeks to implement course revisions.

Rationale

Rationale for the Course

This course is being used to provide WIC participants with valuable information on living a healthy lifestyle, specifically through proper nutritional practices. Research indicates that the leading factors attributed to WIC participation are low socio-economic status and dietary risks. These dietary risks are often due to lack of knowledge regarding good nutrition and leading a healthy lifestyle. WIC participants generally have less understanding about their health conditions, and as a consequence, are more likely to fall prey to quick-fix treatments, fast weight loss diets and questionable remedies. Additionally, WIC participants, during birthing years, tend not to return to pre-birthing weight. Participating in WIC is voluntary and therefore we can conclude that they know they need to be healthy and will therefore be somewhat motivated to learn. Therefore, this course will provide them with valuable knowledge and skills.

Rationale for Course Revisions

Originally, this course was built for an audience composed of incoming college freshman. It was a part of the Physical Education 101 class. This audience differs greatly from the WIC participants; therefore changes are needed to ensure learning is supported. The materials were originally meant to address a more general audience, which would not be relevant or interesting to the WIC audience. There needs to be specific connections between the content and the women participating in the program.

Setting

Context

The Energy Balance module is a computer based, self-directed course for WIC participants. It will be delivered via computers housed in the WIC offices. This is because the majority of participants do not own their own computers. Participants will need to view the course from start to finish in order to meet the requirements set forth by the New Hanover County WIC Program.

The participants know they will be required to attend at least two nutritional counseling sessions as well as get health exams to maintain eligibility in the program. This module will be a separate requirement, not linked to the counseling sessions or exams.

Delivery System

A computer located in the WIC offices will deliver the course. It will be taken under the supervision of a WIC employee to ensure completion.

Instructor Information

This does not apply, as it is a CBI.

Section 2: Audience Information

Questions Related to Audience Information

Who are the learners?

The target audience consists of women participating in the New Hanover County WIC program. The majority of participants are between the ages of 20 and 34 and come from a low socio-economic household. They also are either pregnant or have a child under the age of five. Approximately 48% live at or below the poverty level and around 75% have a high school diploma or less. These women are enrolled in the program due to low socio-economic status as well as health risks. These health risks might include anemia, high/low weight, complications during pregnancy, and/or diet risks due to a failure to meet nutritional requirements.

Do the learners know each other?

The majority of the target audience, although living in the same areas, does not know each other.

What are the learners' motivational attitudes?

Research shows that the majority of WIC participants join because they perceive the benefits of the program to be high. However, there is a significant drop out rate that is most likely the result of an imbalance between the perceived benefit and the actual benefit versus their time commitment, as there are requirements to qualifying for benefits. This shows us that the majority of WIC participants will most likely have a negative attitude towards additional WIC requirements. We also know the WIC program can often have negative attitudes and connotations associated with it, as it is federal assistance program.

What are the learners' general attitudes toward this course?

This is a brand new course, so there is no data to support attitude level. However, with regard to past courses, it was found that transportation issues and time constraints contributed to a negative attitude towards WIC requirements, such as counseling sessions, medical exams and trainings.

Do the learners have any strong likes or dislikes with respect to various types of delivery systems and teaching strategies?

There has been a small percentage of women who displayed trouble using computer-based modules, however this is not an issue because a WIC employee will be there to assist as needed. The biggest concern is perhaps the fact that there is a large Hispanic population enrolled in WIC, therefore it is difficult for them to understand the information when presented in English. A few successful programs within WIC, suggest that the use of various coaching strategies support participant engagement during nutritional counseling sessions.

Section 3: Audience Analysis

Audience Analysis

The following analysis is an estimated motivational profile for the target audience of WIC participants. We have broken the audience into two groups. Group one consists of WIC participants who are employed outside the home and group two consists of non-working participants.

Attention Readiness

The working WIC participants (A1) will most likely have a lower level of attention and curiosity due to a higher level of stress and lack of available time. They will expect this to be just another requirement of WIC, and not see it as being pleasant and beneficial. Their preference would be for WIC to supply them with the food and necessary information to review on their own time without needing to travel to the WIC offices. This group may have a tendency to rush through the module in order to fulfill a requirement, therefore not pay close attention to the information.

The non-working participants (A2) will have a slightly higher level of attention due to a less constricting schedule and because of their increased focus on caring for their family. They will be more curious to learn from the module and find it more pleasant in nature. Their expectation for gaining new knowledge is higher than the working population. However, it is expected that both groups will have some anxiety as they approach this new subject matter.

Perceived Relevance

Both groups will find a certain amount of relevance in the material. They have similar goals in that they want to provide for their families with respect to a healthy lifestyle and nutrition. They also want to meet the requirements set forth by WIC to maintain eligibility. However, there is a slight decrease in relevance for

the working group (R1). This is due to competing goals within the context of their busier day.

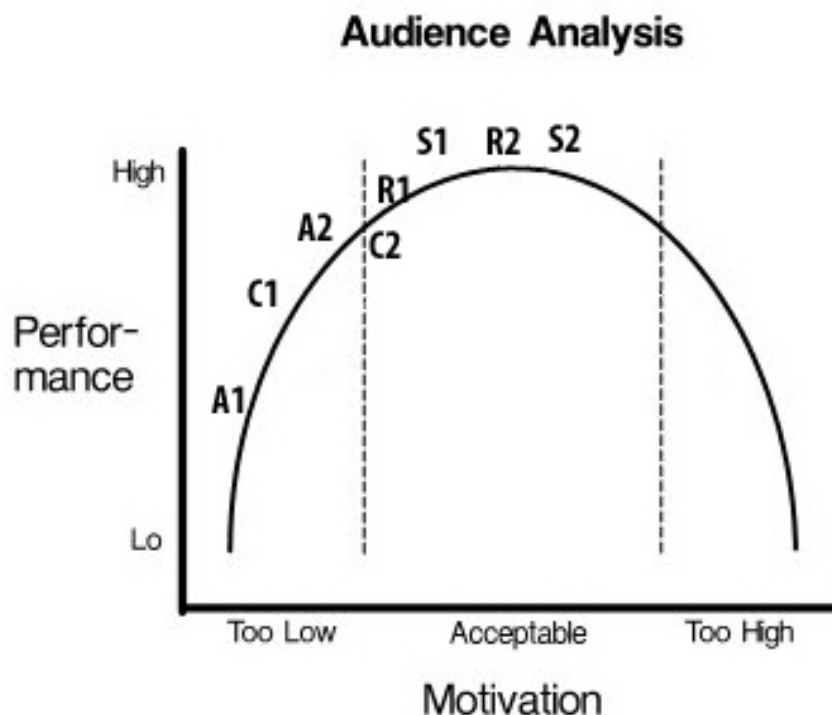
Felt Confidence

Both groups will display a certain amount of confidence when taking the module, as they will have the assistance of the WIC employee should problems arise. The material and the delivery system will be new to a majority of participants in both groups, which will decrease their expectation for success. Given that this is a requirement, all participants lose a certain amount of locus of control. The working group (C1) will have a slightly lower confidence level due to their perceived ability to complete one more thing in their busy day.

Satisfaction Potential

Both groups will experience a good amount of satisfaction from completing the module. Since they will be completing a requirement and maintaining their eligibility in the WIC Program, they should feel a sense of completion and reward. The non-working group (S2) will have slightly more satisfaction simply because they have more time to apply their new knowledge. They are home to feed their children as well as have more time allotted to grocery shopping and applying the practice of reading food labels.

Graph of Audience Analysis



Characteristics of Major vs. Minor Problems

The majority of the problems lie within the areas of attention and confidence. These problems are a bit stronger within the working group; this is attributed to their busier schedules. While they may find the information valuable, they may not have the time to focus on the module or put the information to good use. Minor problems lie within the confidence level of the non-working group as well as relevance, mainly for the working group.

Modification of Major Cause

Solutions to the attention area can be created by asking open ended questions to gain interest, providing a better sequence to the instruction, and linking the module to the learners by utilizing realistic scenarios, graphics and examples. In addition, creating the module in Spanish as well as slowing it down would help in multiple areas of ARCS. In addition, adding simple multiple-choice questions throughout the content will increase both attention and confidence.

Solutions to the confidence area include better setting expectations including the goals and objectives, and using simpler vocabulary. We recognize that if we can improve the attention and confidence components, satisfaction will remain high.

Section 4: Current Materials Analysis

Attention Getting and Sustaining Features

Feature	Positives	Areas of Concern
Course Title		<ul style="list-style-type: none"> The title is somewhat misleading as the focus is not so much on weight management, but on healthy living through proper nutrition.
Use of Graphics	<ul style="list-style-type: none"> Positive use of highlighting and zooming features encourages focus of attention. Some use of graphics for interest 	<ul style="list-style-type: none"> Graphics are not appropriate as they do not pertain to multicultural learners Graphics could be more specific to illustrate narrative A lot of “stick figures” were used which makes module more impersonal
Use of Video	<ul style="list-style-type: none"> Videos are appropriate and interesting Videos are clear and loud enough to hear. 	<ul style="list-style-type: none"> Videos are all shown one after another at end
Use of Audio	<ul style="list-style-type: none"> Audio level is appropriate Audio adds depth to material presented on screen 	<ul style="list-style-type: none"> Narration moves quickly, and may present difficulties for second language learners Module relies heavily on auditory understanding, which may be difficult for second language learners
Variations in Formatting	<ul style="list-style-type: none"> All slide use similar format decreasing potential for distraction Use of green color scheme is appropriate when relating to health topics. 	
Course Sequence	<ul style="list-style-type: none"> Nice flow of information presented 	<ul style="list-style-type: none"> Complex terms are used initially, and then there is a decrease in terminology use. Some introduction or option to define terminology should be present

Use of scenarios for curiosity:		<ul style="list-style-type: none"> No scenarios are present to engage learner
Lack of variation:	<ul style="list-style-type: none"> Module utilizes combination of video, audio, power point slides and animations. 	<ul style="list-style-type: none"> Videos are shown at the end of the narration and not integrated

Relevance Generating Features

Feature	Positives	Areas of Concern
Introductory scenario:		<ul style="list-style-type: none"> Lack of Introduction, it starts out with the importance of balancing your food intake with energy expended; yet no background is provided on this topic.
Module introduction:		<ul style="list-style-type: none"> No objectives, directions or explanation is made clear to participants. This makes it difficult to create a sense of relevance.
Module lessons:	<ul style="list-style-type: none"> Several mini lessons are present 	<ul style="list-style-type: none"> No clear break exists between each lesson, which could signal to the learner that a new objective or material is being presented.
Lifestyle relevant scenarios and cases:	<ul style="list-style-type: none"> Audio level is appropriate Audio adds depth to material presented on screen 	<ul style="list-style-type: none"> Instruction is very general and lacks connection to audience. Given the diverse ethnic population, few examples will be relevant. Many graphics will not offer relevance to learners.

Confidence Building Features

Feature	Positives	Areas of Concern
Slow and Steady Pace		<ul style="list-style-type: none"> Narration is at a quick pace, which may cause difficulty for learners, should they become confused.
User controls navigation:	<ul style="list-style-type: none"> This is a Camtasia module, there are no interactive controls. The user simply has to hit the play button. 	<ul style="list-style-type: none"> This could serve to decrease confidence should the learner need to replay a section or pause the module. This doesn't allow for interactivity, such as questioning.
New delivery mode:	<ul style="list-style-type: none"> For most participants, computer based instruction is new. The fact that a WIC employee will be available will ease their anxiety and increase confidence. 	
Navigation Directions	<ul style="list-style-type: none"> Very little navigation is required of the learner. 	<ul style="list-style-type: none"> No directions are offered as to navigating the module, should the learner need to pause or go back.

Satisfaction Producing Features

Feature	Positives	Areas of Concern
Check Point Questions		<ul style="list-style-type: none">• There are no questions or assessments. This is purely for delivery of information.
Criteria for Practice Exercises	<ul style="list-style-type: none">• Reading food labels is demonstrated	<ul style="list-style-type: none">• No practice scenarios or exercises are offered, which may decrease the satisfaction as well as their ability to actually implement the practices

Section 5: Objectives and Measures

Motivational Design Objectives and Assessments

Overview: *Although this is a self-directed module, the participants will be observed by the WIC employee to ensure completion. During the pilot testing, observation as well as verbal questioning by the WIC employee will collect feedback.*

	Motivational Design Objectives	Assessments
Attention	Learners will report that the training was pleasant and maintained their attention throughout.	During module, WIC will observe the participants demonstrating focused attention. After completing the module, the WIC employee will question the learner about their interest and attention level.
Relevance	Learners will report that the material was relevant to their current situation and that the instruction provided helped them better understand how to live a healthy lifestyle by adopting proper nutritional practices. Learners will also express interest in other courses.	Learners will be asked if they found the material relevant, by listing one practice they plan to use the next time they shop. Also, other measures may be used. For example, if the learners are asking for other courses or additional information, or if they are retaking this course.
Confidence	Learners will complete the course and report that they are happy with the module. They will also show confidence in their ability to put the new knowledge into practice.	Learners will be observed to ensure completion of the module. Afterwards, they will be asked how confident they are in their understanding of the material. Also they will share one self-constructed, realistic goal to apply what they've learned in their daily lives.

Section 6: Preliminary Design

Brainstorming Phase Results

	Beginning	During	End
A	<ul style="list-style-type: none"> - Ask open-ended questions to prompt interest -Offer a scenario to capture attention -Present a real WIC participant face as graphic to add familiarity -Utilize appropriate graphics that go along with open ended questions -Slow Down the Audio Narration* -Offer a Spanish Version 	<ul style="list-style-type: none"> -Sequence the instruction better, break up by content to maintain attention -Ask open ended questions -Use scenarios specific to audience -Highlight key ideas with brighter text -Intersperse questions through out module (T/F or multiple choice) 	<ul style="list-style-type: none"> -Wrap-up coaching session -Success Stories -Implement Moms Supporting Each Other Focus Group -Free Stuff/Incentives
R	<ul style="list-style-type: none"> -Present benefits/goals of course -Show that this module was created to assist WIC participants by (state main objectives of module) -Utilize appropriate graphics for the audience -Use more personal language* 	<ul style="list-style-type: none"> -Connect the terminology/new skills to audience by providing examples and/or analogies -Use more personal language 	<ul style="list-style-type: none"> -Show example scenarios of how the learners can apply this course after completion
C	<ul style="list-style-type: none"> - Define expectations of the learner for the course in regard to WIC - Explain that computer skills are not needed and that a WIC employee is available for assistance -Offer module is Spanish* 	<ul style="list-style-type: none"> -Relate the material back to the objectives -Provide positive feedback throughout -Use simple vocabulary or offer definitions of more advanced vocabulary -Continuously relate content back to goals/desired outcome -Select Appropriate Food Graphics -Scaffold the instruction to ensure sense of ability 	<ul style="list-style-type: none"> -Re-summarize goals of the course -Provide positive feedback that they completed the course -Add an assessment -Create a pocket card with basic tips for reading food labels -Printable Job Aid/Take Away -Certificate of Completion

*These elements will be carried out through entire module, and will assist in multiple areas of ARCS.

Section 7: Final Design

Selection and Synthesis Phase

Throughout

- Offering a Spanish Version of Module (A,R,C)
- Utilize Graphics Appropriate for Audience (R)

Beginning

- Change title to make it more appropriate and relevant (A, R)
- Add navigation assistance at beginning of module (C)
- Ask Open Ended Questions (A)
 - For Example: “Have you ever stopped and read a food label?”
- Make Objectives & Expectations of Module Clear (A,R,C)
- Present Realistic Scenario using a past WIC Participant (A, R)

During

- Sequencing Instruction/Break up content into three small chunks (A, R,C)
- Use simple vocabulary where possible, if not possible then offer definitions of advanced language (A,C)

End

- Add a simple, multiple choice assessment to ensure a feeling of achievement (A,C)
- Wrap-up coaching session with WIC Employee which will include re-summarization of objectives (A,R,C,S)
- Printable Job Aids and/or “Take A-ways” (R,C)

The above tactics were selected based on the previous brainstorming session. Time constraints played a significant role in the final selection of tactics. Although these tactics may require some reworking of the current module, we believe the changes will result in a significant increase in motivation of the participants, which will ultimately contribute to the overall success of the program.

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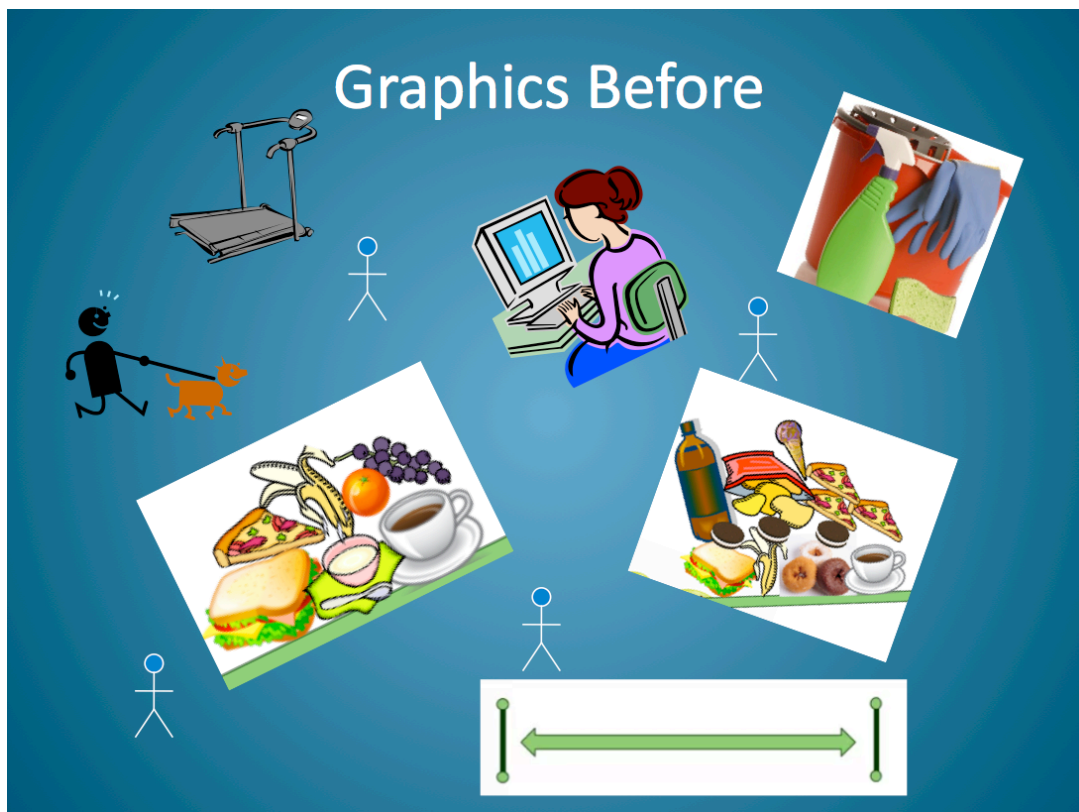
MIT501 Summer 2011

Prototyping of Motivational Tactics for Module

Part One: Use of Graphics

The graphics used in the module are very generic. Many of them are stick figures or cartoons, making the learning very impersonal. There are also several arrows or diagrams that are confusing because they are not labeled or offer no explanation for what they are representing. In addition, the graphics used do not take into account the multicultural audience found within the WIC Program.

Here is a look at a sample of the graphics currently existing within the module:



Here is a look at some of the graphics *after* applying the ARCS model to our module.

Graphics After

These are just examples of graphics that could be used

Unhealthy → Healthy

We have added graphics that utilize real people and their families. The people represent a variety of backgrounds and cultures. In addition, children are present in a lot of the photographs, since that is a big part of the WIC program. Any use of arrows or diagrams will now be labeled to add clarity. In addition, the exercises and foods shown in the photographs will be more relevant to this population of learners.

Part Two: The Beginning of the Module

After the title slide, the module goes straight into actual instruction. This can add to confusion, anxiety and a decreased level of attention in the learners. There are no expectations, directions for usage or explanation of objectives. Therefore, the learners are going into this not knowing what to expect.

Here is a look at the beginning of the module *before* changes:

Slide #1 with inappropriate title



Slide #2 goes directly into instruction. It doesn't give any introduction or set up expectations.

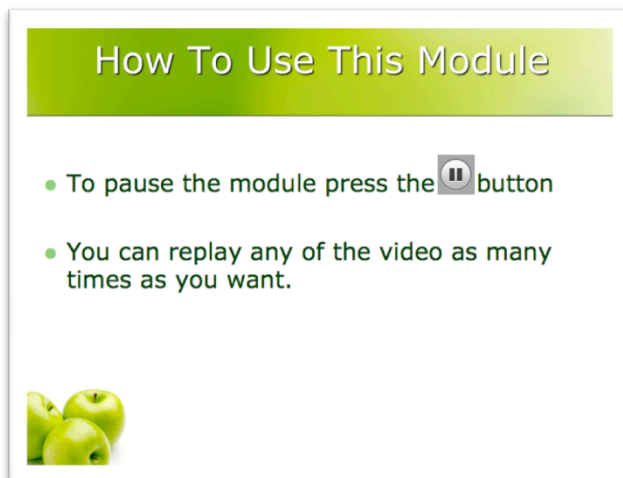


Here is a look at the beginning of the module *after* implementing motivation tactics:

Slide #1 with improved, appropriate title



Slide #2 presents some simple navigation



Slide #3 presents the learners with the objectives, written in simple and personal language.



Objectives for this Course

- Practice reading food labels
- Balance exercise and food
- Practice healthy eating



We have changed the title to make it more appropriate and more relevant to the content of the module. In addition, we have added a slide with navigational directions, explaining how learners can utilize the pause button or revisit the module. Third, we would present the objectives of the course to the learners. These objectives are written in simple terms, using personal language. This provides the learner with a clear picture of what they will gain from the course, as well as what the expectation is in terms of learning and application of their new skills.