Learner-Centered Nutrition Education: 
The California WIC Experience

By Michael Elfant, RD

Traditional Education – Two Scenarios

Amy paused to survey the group facing her – a multi-ethnic mix of pregnant and postpartum women, with a scattering of young children, and even one dad. Several women were talking amiably among themselves, while others waited uneasily, interacting distractedly with their children.

Amy had been teaching this same WIC class about fiber for years. Sometimes it went very well – other times, well, it seemed a bit flat. She wondered how this class would go. She would find out shortly.

“Good morning and welcome.” The talking died down. All eyes focused on Amy. “Today we are going to be talking about fiber. Can anyone here tell me what fiber is?” The group got very quiet. After an awkward moment one woman near the front spoke up. “Isn’t it like the stringy part of food, like in celery?” Amy smiled. As usual, she’d have a least one person who’d answer her questions. “Yes, that’s part of what fiber is”, she said. “Fiber is the non-digestible parts of plant foods, we eat,” Amy went on to describe fiber in more detail, then asked the group, “Who knows why we need fiber?”

Amy waited. Several people shifted slightly in their chairs. Most looked down, or stared blankly. Finally the same woman near the front answered. “Cause otherwise you can’t poop” she said with a bit of flair. This got a laugh from the group. “Exactly!” Amy said encouragingly. “We need fiber for regularity, or to prevent constipation. Now, who knows what foods are high in fiber?” Amy continued talking about kinds of fiber, including cellulose, lignins, and pectins, the Surgeon General’s guidelines of 25 – 30 grams of fiber a day, ways to eat more dietary fiber, and other tips to prevent constipation. She concluded by handing out a related pamphlet and everyone’s WIC checks. “Well,” she thought, “not so bad – some are a lot worse”.

Meanwhile, across town in the prenatal wing of the municipal hospital, Maria found herself in the midst of counseling one of her gestational diabetes (GDM) patients, growing slightly frustrated. The noise of the waiting room droned in the background. This was already the third visit with this woman, and her diet showed very little sign of improvement. As Maria reviewed several days of diet histories, the woman sat silently and somewhat withdrawn. They had spent a least an hour going over the diabetic exchanges, the list of “off limit” foods, and ways to get more exercise. “Why doesn’t she get it?” Maria thought to herself.

Many of you may find the situations described all too familiar. As dietitians focused on women’s health and reproductive nutrition, our goal is to help our clients learn to be as healthy as possible through proper nutrition and related health behaviors. But how successful are we?

For the last several years, California WIC has been exploring learner-centered education, a somewhat non-traditional approach to nutrition education. Although we have used this approach primarily in group education, many of the same principles and practices will work well in the individual setting as well. This article will give the reader a background of learner-centered education and offer ideas on how to apply the principles in other practice settings.

Learner-Centered Education

Learner-centered education redefines the traditional teacher-learner roles and the relationships between them. The learner becomes responsible for identifying the information they already know and practice, and what they want to learn more about, instead of only being the receiver of information. The teacher becomes responsible for discovering these things - what the learner wants to learn, and already knows and does - and blending this with what he or she, based on her expertise, believes the learner should know. The teacher must then structure the learning session so the learner can succeed.
Assessing what learners’ want to know in a class setting can be a bit trickier. A teacher may start a each class by asking participants where areas of the class they would like to focus on, though this requires a fair degree of flexibility with the lesson plan. In our case, we rely on surveys to discover which topics participants want to learn about in general. While a surveys, focus groups, or spoken questions at the end of a class. Once the topics are identified, we repeatedly test these classes with participants to see how effective they are, and modify them based on their feedback. Also, since many of our teachers do not develop of the classes, but simply teach from someone else’s design, we try to get their input as well.

For one-on-one or group education, finding out what your learners already know and do – either before or during your session can greatly help. This will honor (and possibly flatter) the learner, and may save you a lot of time – you might find you can skip material that is too basic or too advanced.

R.I.S.E. – The Core of Learner-Centered Education

Graph 1 defines the key R.I.S.E. (Respect, Immediate usefulness, Safety, and Engagement) principles of learner-centered education. While these factors might seem obvious, really focusing on each of them has helped us discover many new ways to make our classes more effective.

For example, in Amy’s class, the learners may not have found the technical information about the kinds of fiber and the number of grams the US Surgeon General recommends immediately useful. Interesting? Possibly, to some. But how critical is this information to help these women learn to eat more high fiber foods?

Open-ended Questions: Don’t ask what you know – tell in dialogue!

All learner-centered approaches have “open-ended questions” at the center.

Assessment: Honoring the learner’s voice and experience

Discovering the learner’s wants, needs, and experience is essential to establishing the partnership that is the foundation of learner-centered education. In individual counseling this can be as simple as asking, early on in the session, what the client wants to learn about and what they already know or have experienced with a given topic. For example, Maria could have offered her client a choice of topics: “Here are some of the important things to help women with GDM have healthy babies – avoiding high sugar foods, eating well balanced moderate sized meals, including healthy snacks at key times, and getting regular physical activity – which do you most want to talk about today?”

The RISE Principles of Learner-Centered Education

RESPECT
Learners feel important and valued. Adults need to feel respected for who they are, where they’ve been, and what they know how to do. Respect is the bedrock of the teacher-learner relationship.

IMMEDIATE USEFULNESS
The class provides something the learners feel is helpful in their own lives right now, that they can take back and use right away. The learner is the one who decides if the content is immediately useful.

SAFETY
Learners feel comfortable and confident and willing to participate. The setting, the topic, the teacher, and the structure of the class all contribute to safety.

ENGAGEMENT
Learners are involved, and participating in their learning. Look for the smiles, conversation, laughter, questions, and movement that indicate our learners are engaged. People cannot learn if they are not engaged.

Graphic 1 Adapted from Global Learning Partner’s Inc Learning to Listen, Learning to Teach Workshop

continued on page 3
They serve as building blocks for the RISE factors. Open-ended questions do not have any set, or correct, answers; they ask about what someone thinks, what their experience is, or what they imagine they would do in a given situation. We have discovered how open-ended questions invite dialogue and engage participants by requiring reflection and critical thinking. Also, we have learned how closed questions, such as the ones Amy used above, discourage dialogue. Closed questions may feel like the teacher is “fishing” for the right answer - participants may be afraid of giving the wrong answer or looking foolish.

In learner-centered education there is a saying, “Don’t ask what you know – tell in dialogue.” When you ask what you already know, you are not asking about learners’ thoughts or ideas. You may wonder, “then how do you introduce new content?” The answer is simple: tell or demonstrate it. Then, ask the learners what they think about the information, or how they can use it. In our WIC scenario, Amy asked “What foods are high in fiber?” – a possibly unsafe question. Instead, she could have given a list of high fiber foods or had a display of the foods, and then asked which of these foods people liked, or how they would use these foods. You can feel a huge difference in group energy when you pose open-ended questions about peoples’ experiences and interpretations.

**Practice: What we have to learn to do, we learn by doing!**

It has been said that we remember about 20% of what we hear, 40% of what we see and hear, and 80% of what we see, hear, and do! This touches on two crucial practices in learner-centered education. First, it helps our learners to include visual and kinesthetic activities, in addition to talking, in our sessions. Sounds, sights, and touch sensations activate different pathways in the brain, which reinforces learning and accommodates varied learning styles. Many WIC classes use pictures or other images to accompany the content which taps into visual learning. Also, we plan hands on activities, such as touching food models or breastfeeding dolls, handling WIC coupons, using lapboards, or even giving participants small containers of soil to plant a “garden”. In one highly successful class participants reach into a “grab bag” of post-partum related items (such as breast pads, diaper rash cream) and discuss what these items mean to them.

Second, we need to set up ways for our clients to practice using the skills and knowledge presented to them. For example, after exploring some principles about a healthy diet with a patient, you can invite her to plan a day’s menu for herself. Or after a brief lecture on healthy snacks, ask the participants to choose which snacks they think are healthy from a collection of various healthy and less healthy snacks. Creating ways to let our learners practice may be challenging but is extremely helpful.

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**From the Chair**

*Barbara Luke, ScD, MPH, RD*

This spring our DPG began the new year with a growing new identity—as Women’s Health and Reproductive Nutrition, expanding beyond our original roots as a DPG devoted only to perinatal nutrition. With this new identity, our areas of interest now include adolescence through postmenopause, beyond pregnancy and childbearing issues. With this expanded emphasis, we hope to include more preventive issues and to explore areas that are of wider interest in women’s health both personally and professionally to many of our DPG members and their families as well as to their clients. Research in women’s health has grown over the past ten years, but we still have much to learn to catch up with our knowledge of men’s health. Women were often excluded from research studies, and because of this, we know much less about how diet and lifestyle factors affect their long-term health. But we are making progress in closing that gap, and as practitioners and educators in women’s health, the registered dietitian can play an important role.

Our sessions at FNCE 2003 this past October were a huge success. We held our second breastfeeding pre-conference workshop, providing hands-on experience. The workshop included renowned author Ms. Barbara Wilson-Clay and neonatologist Dr. George Sharpe, and was sponsored by Medela and Ameda/Hollister. The Educational Session by our DPG was Breastfeeding and Childhood Obesity Risk, with speakers Kathryn Dewey and Mary Hediger. Sponsorship for FNCE events for our DPG this year included, in addition to those mentioned above, Martek, Johnson & Johnson, McNeil Nutritional, and Spectrum Organics. A special thanks to the WHRN Board for their time and effort for the meetings and FNCE, and particularly to Mrs. Laura Couillard as the FNCE Coordinator for our DPG, for all of her advanced planning that made this a wonderful meeting.

Please feel free to contact me or any Board member to become more involved in the activities of your DPG. We are always looking for talented, enthusiastic individuals for a variety of activities, from planning meetings and educational sessions, writing newsletter articles, and even fundraising. Your involvement is even more important during this time period, as we are changing the focus of our DPG. Invest in dietetics at the DPG level and help determine its future.
The warm welcome: “You never get a second chance to make a good first impression!”

You can help ensure learners stay engaged by starting from the top with a “warm welcome.” Most people decide within the first minute or two of an educational session if they will like it and learn something from it. Three main factors help contribute to a warm welcome:

1) **The setting.** How inviting is the classroom or the counseling area? If you were to look at it impartially, how would it make you feel? Consider adding small touches, like bright posters, flowers, or quiet music to your learning environment. Or try a circular classroom setup so everyone can see each other – you may sense a complete shift in the atmosphere.

2) **The teacher.** How do you, as the teacher, make the learner feel when they walk through your door? Do you communicate genuine pleasure upon seeing the learners? If you can’t show enthusiasm, you can’t really expect the learners to get excited either.

3) **The opening.** A good opening will have your class eager to find out what will happen next. In many of our classes, right after we announce the topic we invite the participants to discuss with a partner their experiences or opinions related to the topic. For example, in a prenatal nutrition class, we might invite the learners to “turn to a partner and discuss what you think is the best thing about being pregnant.”

The 50%+ and Fun Session!

What does a learner-centered session look like? First, the learner(s) will do at least 50% of the talking and doing. If you were to videotape and analyze the session, you should observe the learner speaking or practicing most of the time - imagine what Amy’s session might have been like! One way to facilitate this is by having learners work in pairs or small groups, which is safer for most people. The same women who chatted with each other before the class might have talked in the class if they could talk amongst themselves. We have found paired discussions about meaningful topics is the often a highlight of our classes.

Another marker of learner-centered education is fun – for both the learner and the teacher. If neither is enjoying herself, there’s probably not much learning going on.

From scatter shot to target shooting

One objection we often hear to the learner-centered approach is that it takes more time. In many cases, this may be true and may also lead to a rather painful realization: we cannot effectively teach everything we might like to in the time available. Deciding what to cut can be challenging but we try to use the rule of thumb to “Teach half the content, in twice the time.”

We need to change our teaching style. Traditional education uses a “scatter shot” philosophy – introduce a lot of information and hope that some of it might hit the mark. However, we know this approach does not translate to people learning. With learner-centered education we take a “target shooting” approach, taking clear aim at a specific goal, with better chances of success.

The California WIC experience

While we have yet to conduct an extensive evaluation of the effects of learner-centered education on WIC participants, our preliminary results are encouraging. The following are examples of the feedback we have received from WIC staff:

- They (participants) are much more involved in the class. They ask more questions and give input.
- Participants don’t complain about how long the class is because all of the information is meaningful and immediately useful.
- Participants enjoy the classes more, interact more and feel more welcomed.
- Participants interact more - with the teacher of the class and with each other...even the quiet participants seem to walk away with more.
- Last year you would find unopened brochures under the table, on the counter and on the sidewalk. This year the clients are reading the brochure on the way out the door, and sharing comments about the contents with each other.
- Now, some people even ask, ‘Okay when do I get my NEXT class?’

Over the coming years we plan to train more staff, continue to revise lesson plans, and apply these principles and practices more in individual education.

References:

8. Uccellani, V, Norris, J. and Perkins, P - Personal communication.
A CASE OF INADEQUATE WEIGHT GAIN
By Cindy Deering, RD, LD, IBCLC

First Consultation 13 day-old baby girl

Presenting Problem  Mother called to request a pump from WIC for planned return to work and college.

History  The mother reported initially experiencing some problems but was now exclusively breastfeeding her first child. Her baby had been born at 37 weeks gestation and weighed 6 lb. 2 oz. at birth. Discharge weight on day two was 5 lb. 14 oz. Day 7 naked weight at the physician’s office was 5 lb. 10 oz.

The mother reported her daughter had begun to develop jaundice before discharge and had a tendency to fall asleep at breast, but her color was improving, as was the stooling (at one point she had not stooled for 2 days). She nursed about every 2 hours during the day and every 3-3 ½ hours at night (end of one feeding to beginning of next). Feedings normally lasted 20-25 minutes. The mother had become engorged at 3 days postpartum, but this had resolved.

The physician had felt the baby’s weight on day 7 was normal, but said to bring the baby for a weight check if she didn’t seem to be “filling out.” The next physician appointment was scheduled for four weeks. I was concerned she was 8% below birth weight and requested the mother have her daughter’s weight checked. She took the baby to the physician the same day and the weight was 5 lb. 8 oz., a 2 ounce loss in 6 days and a total loss of 10 oz. (10% of birth weight) since birth.

The mother was instructed by the physician to return for a weight check the next day, with supplementation to begin if the baby did not gain. I suggested more frequent feedings, with breast compression and switch nursing, to increase milk transfer. A consult was scheduled for the following day.

Exam Findings Day 14  The mother’s nipples were reddened and appeared to be sore. She reported her nipples were no longer painful, but were initially very sore and blistered. The baby’s naked pre-feeding weight was 5 lb. 8.7 oz. The mother breastfed using the cross-hand cradle hold with good positioning and latch-on technique. The baby’s eyes remained shut throughout the feeding and she exhibited much clicking, indicating ineffective nursing and a break in suction. In assessing the baby’s mouth after the feeding, I noted restricted tongue movement. The mother mentioned the hospital’s lactation consultant said the baby was tongue-tied, but the physician did not feel that it was a problem. No plans were made to have the baby’s frenulum clipped. The total intake at breast over the course of one hour was 7/10 of 1 ounce. Double pumping post-feed with a hospital grade electric pump yielded ¼ of one ounce.

Assessment of problem  Inadequate weight gain secondary to inadequate milk transfer caused by a short lingual frenulum (tongue-tie). This was further exacerbated by an early birth and hyperbilirubinemia, factors which often result in sleepy babies who don’t feed well.

Past engorgement and current low milk supply secondary to insufficient milk removal. The initial engorgement and the baby’s inability to use her tongue properly likely contributed to the mother’s initial nipple soreness. Nipple soreness probably resolved as the baby’s suck weakened due to insufficient caloric intake.

Care plan
• Written information on tongue-tie was provided to the mother. As described in The Breastfeeding Atlas, “Frenotomy permits the tongue to move more freely. It is a quick procedure to clip a tongue-tie, and can be performed on young infants in an office setting with or without topical analgesia.” Pediatricians, pediatric dentists, oral surgeons, or pediatric car, nose, and throat specialists normally perform the procedure. It was suggested she again discuss frenotomy with the physician in light of the baby’s weight history.
• Continue to nurse frequently (at least every 1½ to 2½ hours from the beginning of one feed to the next) using waking techniques, including breast compression and switch nursing.
• Pump after every feeding, or as often as possible, in an effort to increase milk supply. The mother was loaned a hospital grade electric breast pump.
• Give expressed breast milk first, and formula (available through WIC) only as needed, according to the physician’s probable recommendations. I indicated that supplementation would probably be needed, hopefully temporarily.
• Discussed bottles and other alternative options if supplementation was recommended.
• Call after the physician’s appointment to arrange for further follow-up.

Follow-up consult findings  The mother was seen at 19, 21, and 27 days. The physician advised against frenotomy, stating a possibility of future speech problems. The mother continued to nurse frequently and started pumping after every 1 to 2 feedings, supplementing with expressed breast milk and formula. The most she was able to pump was 4 oz. per day. The baby did not begin to gain adequately until she was supplemented with 1 to ½ oz. after every feeding. Finally at 27 days the baby weighed 6 lb. 6.8 oz.

Outcome  The mother discontinued breastfeeding by day 35. She was very busy with work and school and discouraged with the small amounts of breastmilk produced in spite of her effort. She had wanted to breastfeed longer, but was thankful to have continued for almost 5 weeks. She felt her experience had been valuable and now felt better prepared to nurse subsequent children.

This mother’s problems may have been eliminated or substantially reduced if the frenotomy had been performed early on and the baby was followed more closely from birth. All babies should receive follow up within 3 to 4 days postpartum, especially those with risk factors similar to this baby (first baby, 37 weeks gestation, jaundice, tongue-tie). Intervention should have begun before the baby’s weight had dropped to 8% below birth weight at 7 days.
A weight loss of over 7% and failure to return to birth weight by 14 days are indicative of ineffective breastfeeding. Although many breastfed babies lose weight initially after birth, they should stop losing after day 3 and begin to gain by day 5. The recommended weight gain is ½ to 1 ounce per day for the first 3 to 4 months after which growth typically slows.

Health care providers must be educated on the effects of short lingual frenulum on the breastfeeding dyad. This will hopefully result in frenotomies that are performed when indicated and thriving babies who are fed exclusively at breast, without the need for frequent pumping and/or formula supplementation.

When talking with mothers on the phone careful questioning is required in order to determine whether problems may exist. The mother may call about something that is totally unrelated to problems of which she may or may not be aware. Telephone calls cannot be substituted for clinic visits.

*Tongue clipping in individuals with short lingual frenulae normally prevents speech problems if done early. It also helps to correct speech problems that develop as a result of a short lingual frenulum which was not clipped early:

Suggested Reading:


WHRN-Sponsored FNCE Session: BreastFeeding and Obesity
By Barbara Luke, ScD, MPH, RD

The objectives for the WHRN sponsored session on the association between breastfeeding and subsequent childhood obesity risk were threefold:

1. to appreciate the evidence of the biological mechanisms by which breastfeeding or human milk feeding may be causally protective against the development of childhood overweight;

2. to evaluate the strength of the epidemiologic evidence for/against breastfeeding as a protective factor for childhood overweight; and

3. to understand the biosocial context of infant feeding as it relates to nutritional status in childhood.

Kathryn G. Dewey, PhD, Professor in the Department of Nutrition at the University of California at Davis, described the unique biological properties of human milk, including its low protein content and bioactive factors, which may directly inhibit adipocyte differentiation and make the concept of human milk as protective against overweight biologically plausible. Physiological responses to human milk, including a lower insulin (and IGF-1) response and programming the leptin-dependent feedback loop to be more sensitive to leptin later in life (i.e., less leptin resistance) that may also make breastfeeding protective. The secondary effects of breastfeeding possibly impacting later nutritional status may include better infant control of internal satiety cues.

Mary L. Hediger, PhD, Senior Investigator at the National Institute of Child Health and Human Development, NIH, Bethesda, Maryland, presented on the epidemiologic evidence of the association between breastfeeding and childhood obesity. While most previous epidemiological studies of breastfeeding and later child overweight did not find a significant protective effect, Dr. Hediger presented several positive studies published in the last several years.

Evaluation of the strength of the association and determination of whether or not the epidemiological association is biologically causal has proved difficult because while the dose-response effect observed with duration in some studies is suggestive, the major confounders associated with breastfeeding covary with its duration. No published study has been specifically designed to answer the question, and the observational studies have not been consistent in defining intensity of breastfeeding and its duration; the criteria for determining child overweight; age at follow-up; or consideration of other factors related to both breastfeeding and risk of child overweight. For example, the strongest predictor of weight status in children is parental weight status, and not all studies have included this factor. Based on the epidemiological evidence, the protective effect of breastfeeding, although biologically plausible, is probably weaker than that for genetic and other environmental (social and familial) factors that impact on child nutritional status. Breastfeeding promotion solely to prevent overweight in children may be of limited public health value.

The Surgeon General’s Call to Action to Prevent and Decrease Overweight and Obesity (Dec 2001) includes a proposal to educate all expectant parents about the benefits of breastfeeding because “studies indicate breastfed infants may be less likely to become overweight as they grow older.” While it is biologically plausible that breastfeeding and/or some of the unique properties of human milk may be beneficial in moderating excess weight gain in children, the promotion of breastfeeding as protective against childhood overweight is still highly controversial because the epidemiological studies purporting to show an effect are inconclusive.
BOOK REVIEW: The Woman’s Day Weight Loss Plan: Lose Weight, Eat Right, Be Fit, and Feel Great at Every Stage of Life

Kathy Keenan Isoldi, MS, RD, CDE
Filipacchi Publishing, New York
ISBN 2-85018-645-7
2003, hardcover, 168 pp. $22.95

WHRN members need to know about this book! Kathy Keenan Isoldi, MS, RD, CDE has put together a new book offering women a practical approach to healthy living with realistic management strategies for different life stages: not the life cycle we studied in nutrition class, but the life cycle that women live: the college years, dating years, mother years...and so on.

Keenan Isoldi confronts how to tackle the demands of each stage without sacrificing the various activities involved. For example, she advises the single, working woman not to skip happy hour gatherings, but instead, to choose drinks wisely with lunch break walks to combat the extra calories.

Easy-to-read charts of healthy snack alternatives and ways to overcome common real-life obstacles offer quick references for the reader to use over and over again. The advice included is helpful for both dieters and non-dieters alike, with a focus on how small sacrifices can help, and an avoidance of extremes. The tables also offer useful reminders to registered dietitians working with a client in a different stage of life than they are. In addition, sample food logs and worksheets are included that offer hands-on tools for a client to explore individually or with the assistance of a dietitian. WHRN members and women in all stages of life can benefit from Keenan Isoldi’s work.

FNCE 2003 Day by Day

By Laura Couillard, RD; FNCE Coordinator 2003

The evening, our membership reception was also well attended! Co-sponsored by Martek Bioscience Corporation and McNeil Nutritional, the reception is a great opportunity for WHRN members – and potential members - to meet and network. Martek has provided sponsorship to WHRN for the past three years. Deanna McCarthy, representing Martek, spoke briefly on recent clinical studies showing the benefits of DHA on infant cognitive and visual development. We have enjoyed working with Martek and hope to continue our relationship with them in the future. This is our first year of teaming with McNeil Nutritional and we hope our relationship with them will grow along with our expanding scope of Women’s Health issues. The tables were glittering with samples of Viactiv, a chewable calcium supplement with 500 mg Calcium. Maureen Conway and Michele Harrington represented the company, with a brief introduction to their product line and good wishes for our expanding DPG.

MONDAY The “new look” for our DPG showcase attracted a lot of attention! Just what we wanted! Thanks to Margarette Williamson for her hard work.

Next year we celebrate our DPG’s 10th Anniversary in Anaheim, California! Hope to see you there!

From the Editor’s Desk

Kathy Scalzo, MA, RD

My mother always wanted me to be a teacher, but I resisted. Instead, I became a registered dietitian and find myself working in a high school during the day and a community college at night! So much for my resistance. At any rate, I hope you all get a good RISE from the article, “Learner Centered Education” by Michael Elfant (see article for explanation).

This is the second WHRN Report that features a lactation-case study. Don’t miss reading about the challenges Cindy Deering faced when dealing with a controversial issue around tongue-tying. This is a new feature, so please let me know your reactions to the column. And if you are interested in volunteering to write up an interesting case of your own, please contact me as well!

Lastly, I want to thank everyone who sent me feedback on the Fall newsletter, my first as the editor. I apologize for the small font size, but at the time, I just couldn’t omit any information! We clearly need to expand our newsletter. Please contact me if you have any ideas for potential sponsors. Happy Holidays and Healthy Eating to All! (Especially my editorial board...thanks for all your help and patience!)