A Continuing Education Program for Hospital and Public Health Nurses to Guide Families of Very Low Birth-weight Infants in Caregiving

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abstract

Nurses have a critical role in family development of competencies for giving care to very low birth-weight infants. However, current information-based methods of preparation may be inadequate for competency development. This article describes a continuing education program designed to strengthen nurses' support of families in developing caregiving competencies through processes of guided participation. Program effectiveness was explored with: (1) a survey of participant and non-participant nurse satisfaction with family work and with organizational resources and practices; (2) a description of relationship and caregiving competencies for mothers who had and had not received guided participation; and (3) a review of mothers' reports of their experience either with or without guided participation. Organizational arrangements and mechanisms for establishing guided participation practice within an agency, including ongoing reflective supervision sessions, peer collaboration, and documentation of competency development, are discussed.

A family's development of competencies for caregiving of a very low birth-weight (VLBW) infant is vital to both infant and family well-being (Bakewell-Sachs & Blackburn, 2003). The guidance of nurses is critical to parents' competence for caregiving of very young infants with special healthcare needs and also to their sense of confidence and effectiveness (Bakewell-Sachs & Blackburn, 2001; Bruns & McCollum, 2002; Fenwick, Barclay, & Schmied, 2001). However, this guidance may be limited to informing parents about procedures or techniques when nurses lack preparation in designing strategies for competency development and continuing education or supervision for supporting parents in successful caregiving practice (Sullivan-Bolyai, Knafl, Sadler, & Gilliss, 2004; Thompson & Ontai, 2000). The purpose of this article is to describe a continuing education program to advance nurse guidance of family caregivers of VLBW infants and to facilitate the collaboration of public health and special care nursery nurses in guiding families in becoming more competent in caring for a VLBW infant through the transition to home.

The continuing education program was offered to both special-care and public health nurses during 1 year. The program was approved for continuing education contact hours by the University of Wisconsin–Madison. In addition to classroom activities, the program included a substantial component of clinical work with families in the nurse's own hospital- or community-based practice, individual mentoring, group sessions, and faculty-supported discussions with nurse administrators concerning agency goals for nursing practice with families and the utility of the continuing education program for advancement of these goals. The theoretical underpinnings of the program and its structure, content, and processes are

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described, followed by an assessment of the program's usefulness to families, nurses, and agencies.

THEORETICAL FRAMEWORK OF THE EDUCATIONAL PROGRAM

The program drew on the theory of guided participation for design of classroom, clinical, and individual and group mentoring components. Derived from anthropological studies of how children and adults learn in everyday settings and the educational theory of John Dewey (1916), the concept of guided participation includes both guidance and participation in socially important activities in developing competencies for a new role or practice (e.g., caring for a VLBW infant) (Lave, 1996; Rogoff, 1990, 1997). Guided participation is designed to aid the development of novices (i.e., individuals with little experience or knowledge of a practice) through collaboration with (guidance of) a more seasoned or knowledgeable person. It operates in the process of making connections and seeking solutions to problems or paths to goals during actual or reconstructed activity on a person-to-person basis or within a group (Chaiklin & Lave, 1993; Rogoff, 1993; Rogoff, Bartlett, & Turkanis, 2001).

Applying Vygotsky's (1978) concept of the zone of proximal development, the guide aids the novice in moving from the outer edge of her competency to greater competency by making the new aspects of participation challenging but doable. For example, a mother may develop competencies for feeding her very young, VLBW infant by figuring out, with a nurse's guidance, how the infant's breathing can be supported both at the beginning and throughout a feeding. For movement to more competent or fuller, more responsible participation in the activity, the guide and novice must give joint attention to issues and share understanding of the meaning of the activity (Rogoff, 1990). The joint attention and shared understanding entails development of a relationship.

Guided participation occurs in a social–cultural environment with resources and policies that influence its practice and possibilities (Lave & Wenger, 1991; Rogoff et al., 2001). Healthcare organizations have specific resources, policies, and procedures that influence the support given to families in developing caregiving competencies and to staff members for learning and implementing new methods of aiding this development. The transformation of nursing practice to include guided participation processes does not only require opportunities for novice nurses to use them. It may also require nurse administrators and nurse peers to examine and construct or reconstruct organizational policies and procedures (Rogoff et al., 2001).

THE CONTINUING EDUCATION PROGRAM

Our experience with a clinical trial of guided participation for families of VLBW infants through the infant's first post-term year led to construction of a demonstration continuing education program for hospital and public health nurses in a large midwestern city. We began by exploring the need for a program to facilitate nurses in learning guided participation with the nurse administrators of four tertiary neonatal centers and the City Health Department. The Health Department was developing an initiative to make public health nurse resources available during an extended period of time to families who had high-risk, VLBW infants. Therefore, selected Health Department nurses throughout the city had, as part of their assignments, in-depth work with the families of these infants.

We explored with administrators what participation in the program would require, and how program faculty would work with participating nurses, administrators, and families throughout the program. The tertiary centers and Health Department, for the most part, underwrote the nurses' time for participation in the program. A local foundation supplemented support for nurses' time and provided funds for program faculty and for educational materials.

Enrollment of Nurses

Because individual mentoring and small group work would require intensive use of faculty resources, the enrollment plan specified a total of no more than 15 nurses. We also requested that at least two nurses from each tertiary nursery would participate in the program with the aim of providing peer support within each nursery. Twelve nurses (7 tertiary center nurses and 5 public health nurses) began the program. Due to an acute shortage of nurses in the city, one tertiary center could give only one nurse the time to participate in the program. All nurses but one had at least 2 years' experience in their current positions. The least experienced of the 12 nurses left the program soon after it began with the explanation that she was not yet confident enough of her technical skills with infants in the special care nursery to begin to work more intensively with families.

Program Development

After nurses had been recruited to the program by nurse administrators and before the program began, a meeting of the administrators and nurse enrollees was held in each of the five practice settings to make plans that were specific to the unit or agency. All nurse participants were interviewed prior to the program concerning the professional goals that the program might address,

TABLE 1

MAJOR CONTENT AREAS OF THE CONTINUING EDUCATION PROGRAM IN GUIDED PARTICIPATION

- Developing relationship competencies through guided participation
- Supporting infant and family caregiver competencies in feeding
- Nutrition and growth issues for caregivers of premature infants
- Supporting caregiving competencies in the transition from the special-care nursery to home
- Developing caregiving competencies for the premature infant with chronic lung disease
- Family caregiver management of acute illnesses
- Learning about the other: practicing guided participation in a culturally competent way
- Family challenges to family caregiving
- Developing parental competencies in communicating and engaging with the infant's clinicians

the kind of support perceived to be needed to succeed as a participant, and anticipated barriers or obstacles to participation. Nurses completed, in writing, three vignettes concerning family caregiving situations to provide a pre-program sample of problem solving with families. A second set of vignettes was completed midway through the classroom component of the program and a third set near the end of the classroom component.

The intent of the program faculty was to establish, through the course, a practice of learning (Lave, 1996) by consistently employing guided participation principles in the structure and processes of all of its components, including classroom and clinical exercises, individual mentoring, and small group work. One of these principles included designing the program with input from nurse administrators and nurse participants. This input concerned the structure and schedule of program components and the content areas of each session.

A second guided participation principle employed was to incorporate as much of the nurses' own experience as possible in the classroom rather than exclusively using information transmission. When nurses needed new information, it was organized and presented in the context of clinical practice activities (e.g., monitoring adequacy of nutrient intake, growth, development, and respiratory function). All nurses contributed material from their own case loads to the within-class development of issues and problem-solving experience. One of the goals of these contributions was to advance nurses' competencies in organizing experience and communicating it to peers.

The program was designed to include 28 classroom hours organized in 4-hour blocks for 7 afternoons held every other week during approximately 3 months. The content of these classes is outlined in Table 1. These 3 months of classroom work were followed by 9 months of a guided participation practicum. This practicum included 40 hours of clinical practice in guided participation with selected families in the nurse's agency or hospital unit and approximately 24 hours of concurrent group sessions.

Classroom teachers included, in addition to four nurses who were responsible for implementing all facets of the program (i.e., program faculty), a family service clinician or therapist whose time was made available to the program by a city family service agency. In addition to collaboratively working with nurses in relation to the families in their case load, she participated, along with another family therapist, in classes concerning family adaptation to a premature infant, relationships within the family, emotional responses of family members, and obtaining resources. Several other highly skilled clinicians provided classroom instruction in their areas of practice, including feeding a VLBW infant, nutrition, growth and development, and respiratory problems. A nurse educator-researcher who was nationally known for her scholarship in the area of cultural practices also provided consultation to program faculty and classroom instruction.

Each nurse was guided individually through the 9 months of clinical work in guided participation by one of the four nurse program faculty. Mentoring sessions were held approximately every third week. Guidance included the nurse's selection for each of these sessions of at least one clinical issue (goal or problem) for collaborative problem solving with the faculty guide. Guidance also made use of the nurse's assessment of family caregiving competencies and plans for support of competency development. Participating nurses and faculty guides made joint home visits for practice and mentoring in guided participation. Participating nurses made audio tapes and video tapes of their guided participation interactions with family members. Selected sections of the audio tapes and video tapes were jointly explored in the individual mentoring sessions, the group session, or both.

One objective of faculty continuity of work with specific nurse participants throughout the entire course was to facilitate establishment of a relationship with nurse administrators and non-participating nurses within a specific tertiary or Health Department center. Discussions were held with nurse administrators and participating nurses

whenever there was an opportunity or an issue in need of discussion. These discussions concerned organization of a nurse's scheduled work time for guided participation practice, communication of objectives and plans with other staff nurses, and articulation of guided participation practice with arrangements already in place (e.g., primary nursing with individual infants on a tertiary care unit).

Enrollment of Families

Nurse participants were expected to begin to enroll families into their guided participation case load beginning several weeks before the classes were completed. We encouraged nurses to have at least two families simultaneously enrolled, not only to extend the range of their experience but also to provide a basis for comparing the use by families of guided participation. Nurses varied in how quickly they began to enroll families and the extent to which they continuously maintained families in their case load. The alacrity with which nurses got into action with families was, perhaps, a sign of a nurse's readiness to engage with families in a goal-directed guided participation practice. Some nurses required more support from faculty than others to move into guided participation functions with families.

Faculty understood the challenges in obtaining informed consent from families to participate in a project and made plans with nurse participants to help them learn this new skill and to implement it with families. A concern for nurses was the possibility of a family refusing to give consent. Nurses needed to think through how they might respond to the refusal in a way that would support a client–clinician relationship for practice within the organization. The nurses carefully selected families to approach concerning participation, and refusals did not occur. The families, although selected for participation, were nevertheless challenging and had complex needs for guided participation.

Concurrently with the recruitment of families for guided participation with a nurse enrolled in the program, a project nurse (MK) recruited at least one family whose infant was hospitalized in each of the four participating hospitals for comparison of development of relationship and caregiving competencies through the infant's first year. The number of families in the comparison group was limited by the resources of the project. The comparison families received standard care and, as was also the case for the mothers in the guided participation group, four home visits, at approximately 1, 4, 8, and 12 months, infant age adjusted for prematurity (post-term age). These visits were made by the project nurse for anthropometric and developmental screening of the infant and assessment of the mothers' relationship and caregiving competencies. The family's experience in relation to working with the nurses (neonatal intensive care unit [NICU] and public health or project nurse) was explored with mothers by the project director (KP) after the 12-month assessment visit. The intent of our descriptive study of relationship and caregiving competencies and family experience with the project was to gain insights about the provision of guided participation by NICU and public health nurses and to learn how the program might need to be revised.

Individual and Group Mentoring

The individual mentoring sessions began after classes were completed and continued, approximately every 3 to 4 weeks, through the remaining 9 months of the program year. These sessions were generally held in the nurse's work setting and used the nurse's clinical experiences with families, often through video-taped or audio-taped episodes. During these sessions, the nurse participant and faculty guide collaboratively constructed and reconstructed expectations and intentions concerning guided participation practice and explored guided participation processes and strategies that could be used to support the development of specific family caregiving competencies. The nurse participant self-assessed her own competencies in guided participation with families, and also assessed family caregiving competencies. The major classes of competencies are the same for both nurses and for families (Table 2) and vary only in subcategories.

The program's focus on competencies as the aim of guided participation was a new and often useful way of thinking for nurse participants. Some aspects of the competency concept used in the program were not intuitive, including the idea that competence is a function of circumstances, the situation, and support. This idea makes it impossible to attribute competencies exclusively to an individual and to expect them to be present, as one would a trait. The tracking of competencies in recorded form was proposed to develop a historical sense of what a family caregiver could accomplish in a specific kind of situation and to use this accomplishment to encourage further development with a family. However, a checklist format of tracking competencies was perceived by some of the nurses as burdensome. A narrative form of report that permits description of competencies in context may be more useful. Observation and review of nurse practice with families revealed growth of nurses' competencies in sharing and focusing attention, in joint problem solving, and in facilitating family communication with the infant's clinicians.

Nurses were convened in two groups, one with six members and one with five members, including both

TABLE 2
MAJOR CLASSES OF COMPETENCIES FOR NURSES PROVIDING GUIDED PARTICIPATION TO FAMILY CAREGIVERS OF PREMATURE INFANTS

Task	Specific Type of Competency
Being with the family caregiver	Uses processes to support and sustain interest and attention
Knowing and relating to the parent/family member as a co-participant in the guided participation process	Uses methods that support sharing of goals, expectations, intentions, and feelings concerning caregiving
Supporting the development of nurturing, protecting, and development-promoting caregiving competencies	Provides evidence-based and up-to-date information concerning caregiving practices in the home
Communicating with family caregivers and the infant's clinicians about needs	Aids the family caregiver in preparing to describe and explain what is going on, what may need to change, what has been or is being done, and what support is needed
Problem solving and decision making	Explores a problem from multiple perspectives and wonders with the family caregiver what might be going on
Supporting regulation of emotions	Uses strategies to maintain hope and develop confidence

hospital and public health nurses, beginning at the end of classes and continuing for the remainder of the program year. These group sessions were designed for reflective mentorship and supervision of nurses' work with families and followed principles provided by Fenichel (1992). Through reflection on experience with peers and program faculty in a safe environment, nurses could develop understanding of ways in which they were affected by and affected others and develop a sense of peer support. They could also problem solve with peers and explore goals, expectations, intentions, motivations, and feelings concerning family work.

Program Support

Several organizational resources and arrangements were critical to the processes of the course and exemplify the kind of effect an organization's goals, practice policies, and use of resources can have on a continuing education program, the structure of guided participation that is offered by nurses, and its evolution during a course. The inadequacy of the space made available to the program necessitated finding a suitable meeting place for classes and group reflective supervision sessions. The solution turned out to be serendipitous for the program and its goal of facilitating collaborative practice of hospital and public health nurses. The Health Department nurse administrator who worked as a liaison with program faculty invited the program to move the classes and reflective supervision group meetings to a Health Department center in the central part of city. The decision to move the program site was given careful thought by participants. Hospital nurses, on the whole, were inexperienced in working with families in their homes and neighborhoods and were reluctant to travel to the central part of the city for classes and group sessions. However, the positive relationships that were beginning to be formed with public health nurses made the move manageable. The Health Department staff facilitated program classes and group meetings, and relocation turned out to be a positive experience for nurse participants.

An organizational arrangement that was made during the program turned out to be critical to the development of collaborative relationships among hospital and public health nurses. To take advantage of the course and to use it as an opportunity to strengthen the role of city public health nurses with families of high-risk infants in the city and to advance transitional care for them, the Health Department nurse administrator and liaison arranged a practice change for public health nurses. This change centered on assignment of a public health nurse to each of the four tertiary nurseries.

The plan was for the public health nurse to establish a case load of families with high-risk, VLBW infants from this nursery and to begin a relationship with the family before the infant was discharged from the hospital. The public health nurse would continue with the family through the infant's first post-term year, no matter where the family resided in the city. A related aim was for the public health nurses to become acquainted with hospital staff and attend weekly interdisciplinary rounds whenever possible during the hospital stay of an infant in their case loads. An expectation was developed through meetings with tertiary center nurse administrators, the Health Department nurse administrator and liaison, and program faculty that the hospital nurses on the unit who were participating in the course would be supported in

communicating with the public health nurses about family caregiving issues for the infants in their case loads.

This plan generated a keen interest on the part of hospital nurses to learn what public health nurses did and how they worked with families in their homes. It also generated interest on the part of public health nurses concerning the experience of infants and their families during the tertiary nursery stay. These interests enhanced the spontaneous and self-organized engagement of public health nurses with hospital nurse participants in the course and with families prior to the infant's discharge. Each participating hospital nurse made a home visit with a public health nurse to at least one family on one or more occasions. The collaborative participation (Rogoff et al., 2001) that we observed among public health and hospital administrators and nurses may be essential to establishing guided participation practices with families that span healthcare system components.

Peer collaboration concerning guided participation within each of the tertiary practice settings was less dramatic than the public health–hospital nurse collaboration, but, nevertheless, existed. Faculty encouraged each of the nurse participants to find opportunities to present their work in the program to their nurse colleagues and offered assistance with the presentation. Four of the five practice settings received a presentation on guided participation from nurse participants. The nurses who presented were the strongest of the group of participants in their use of program resources and the most committed to developing guided participation knowledge and skills. Most of the nurse participants reported curiosity or interest on the part of their nurse peers and none reported a negative encounter.

Nurse faculty anticipated with nurse administrators and nurse participants the need and vehicles for informing non-participating nurses about the program and what participation in it entails and potentially gains for the entire staff, addressing concerns about how the program could affect the practice of nurses on the unit, and problem solving for resolution of difficulties. Practice arrangements and work assignments were discussed with nurse administrators when a problem with program participation could not be resolved by a specific nurse. Nurses, on the whole, were able to accommodate their work assignments for attendance of classes and group sessions and for their guided participation activities with families with the support of their nurse colleagues. Although freedom to practice guided participation with selected families for designated periods of time was addressed prior to the program and confirmed by the agency's commitment to support this time, two of the nurses were able to spend little time with families.

Peer relationships among nurses may be as critical as organizational support to participation in a continuing education program for development of competencies in a new method of practice. Nurse participants and nurse administrators may need to think through how guided participation practice with a family could unfold within a system of primary nursing. Opportunities for nurse peers to confer or consult with each other about practice issues specific to a family may need to be created within a unit.

EFFECTIVENESS OF THE PROGRAM

To explore program effectiveness, we used three approaches: (1) a survey on nurse satisfaction; (2) a study of relationship and caregiving competencies of mothers who participated with nurses in the program; and (3) an interview of mothers at the end of their participation in the program when the infants were 12 months post-term age. This exploration was approved by the appropriate institutional ethics boards. Mothers, and fathers if available, signed informed consent forms prior to participation in any aspect of the program. Nurse participants in the training program also signed informed consent forms. The return of a completed satisfaction survey form by other nurses was treated as consent to participate.

Nurse Satisfaction

The study of satisfaction of the nurse participants focused on their work with families and with the organizational resources and culture they experienced in relation to this work. Nurses' satisfaction with their work is linked to quality of care and nurse retention (Buerhaus, Needleman, Mattke, & Stewart, 2002; Newman, Maylor, & Chansarkar, 2001). Nurse participants completed the survey before the program began; 3 months later, after the classroom component of the program was completed; and 1 year after completion of classes. The 1-year survey results were compared with the satisfaction of nurses who had not participated in the program. The 16 survey items concerned clinical practice, professional development, agency protocols and policies, availability of mentoring or consultation for clinical practice, and collaborative practice with peers. Each item, listed in Table 1, was rated on a 5-point ordinal scale (5 = very satisfied, 4 = satisfied, 3 = uncertain, 2 = dissatisfied, 1 = very dissatisfied). Factor analysis using the entire data set from this study demonstrated a single factor that supported obtaining a total score for the 16 items. The alpha coefficient for the 16 items was .94. Forty-five percent (n = 116) of the estimated 259 non-participating nurses to whom surveys were distributed responded.

Due to last-minute decisions about program participation, only 8 nurses completed the survey prior to the program. All nurses returned responses at the completion of the classes and 1 year later. Due to small numbers, only descriptive statistics are reported for the repeated satisfaction assessments. Mean scores were higher at completion of classes (M = 4.36, SD = .34) than mean scores prior to the program (M = 4.09, SD = .40). One year after class completion and program conclusion, mean scores were essentially the same as they had been prior to program enrollment (M = 4.12, SD = .41). The slight increase in satisfaction at completion of classes, although it did not change the category of satisfaction overall from satisfied to very satisfied, perhaps indicates a strengthened sense of preparation for family work. The mentored experience of guided participation practice may have increased awareness of need for further development of practice competencies, resulting in lower satisfaction scores than at class completion.

Participant and non-participant nurse satisfaction item scores, as well as mean and total scores, are listed in Table 3. Overall, participant nurses averaged a score slightly above 4, labeled "Satisfied" on the satisfaction scale. Nurses who had not participated in the program averaged a score nearer 3, labeled "Uncertain" on the satisfaction scale. For all items, nurse participants had higher satisfaction scores than non-participant nurses. The mean satisfaction score for non-participants (M = 3.36, SD = .70) was significantly lower than the mean satisfaction score of participants at 1 year after program conclusion (t, not assuming equal variances = 5.57, df = 18.6, $p < .001$). Overall, it could be concluded that nurse participants were more satisfied with their own and organizational facets of family work than non-participant nurses. However, it is important to note that nurse participants had higher satisfaction scores when they began the program than non-participant nurses had 15 months later. Nurse participants may have chosen to participate in the program because they enjoyed working with families, and, on the whole, were satisfied with their family work but wanted to develop this aspect of their practice.

Maternal Relationship and Caregiving Competencies

Twelve mothers who participated in guided participation with NICU nurses during the hospital stay and with public health nurses through the infant's first post-term year (GP group) and 4 mothers who received standard care (SC group) were included in the exploration of relationship and caregiving competencies at 1, 4, 8, and 12 months, infant post-term age. Eligible mothers were at least 18 years old, able to speak and read English, and not known to have a substance use problem. Mothers in both the comparison and intervention groups received home visits by the project nurse, who was not informed of group assignment, at 1, 4, 8, and 12 months infant post-term age. At these home visits, infants were weighed and measured, the Denver II developmental screening was performed, mothers were informally interviewed to learn about their caregiving experience, and a feeding interaction was observed. Observations made throughout the home visit were used to assess a mother's relationship and caregiving competencies.

A mother's verbally and behaviorally expressed relationship competencies were assessed with a 27-item checklist, the Relationship Competencies Assessment (RCA), and a 11-item Caregiving Competency (Nurturing and Protecting) Assessment (CCA) checklist. Both checklists were developed from observations made in earlier studies (Pridham, 1987; Pridham, Hansen, Bradley, & Heighway, 1982; Pridham, Limbo, Schroeder, Thoyre, & Van Riper, 1998; Pridham, Martin, Sondel, & Tlcuzek, 1989; Schroeder & Pridham, in press; Thoyre, 1993).

Nine items of the RCA describe parental competencies in being with the infant (e.g., a mother shows or expresses pleasure in being with the infant; displays skill or expresses need for skill in handling the infant; describes or displays accommodation of her own life to the infant's needs; and expresses understanding of what the infant gains from her presence). Eighteen items are concerned with competencies in knowing and relating to the infant as a person. These items describe a parent who discusses: (1) the infant's experience as a person, including ways of relating, preferences, and agendas; (2) what the infant is learning and how the infant is changing; and (3) how the parent makes sense of what the infant is experiencing or becoming. The eleven items of the CCA concern: (1) provision of an environment supportive of the infant and the infant's care; (2) provision of safe, protective, and nurturing care; (3) feeding that supports adequate and satisfying infant intake; and (4) provision for infant needs for rest.

Each item of the RCA and CCA is given a score of 1 when the competency is observed and 0 when it is not observed. The item scores were summed to obtain total RCA and CCA scores. Agreement in simultaneous application of the RCA items by two equivalently trained nurses in another study averaged 89% (Schroeder & Pridham, in press). Inter-rater reliability for the CCA items has not yet been examined. Reliable and valid application of the RCA and CCA requires a relatively standard set of conditions for assessment across families.

TABLE 3

NURSE SATISFACTION WITH FAMILY WORK 1 YEAR AFTER CLASS COMPLETION FOR PROGRAM PARTICIPANTS (N = 11) AND NON-PARTICIPANTS (N = 116)

	Participants		Non-participants			
Item	***M***	***SD***	***M***	***SD***	***t***	***p***
Practice with families	4.18	.40	4.06	.71	.55[a]	.58
The protocols the unit or agency has for working with families	4.09	.54	3.59	.88	2.72[b]	.01
The helpfulness of the mentoring received about working with families	4.67	.50	3.34	1.01	6.95[b]	< .001
The amount of time it takes to be involved in working with families	4.17	.58	3.45	.95	3.81[b]	.001
The feedback received about one's work with families, including suggestions for improvement or development of one's practice	4.25	.75	3.07	1.15	4.87[b]	< .001
The clarity of the work with families that one could or should be doing	4.25	.62	3.44	1.00	4.01[b]	.001
The help received from nurse leaders and nurse staff members when one has questions about working with families	4.18	.60	3.47	1.07	3.45[b]	.003
The challenge of working with families	4.73	.47	3.73	.93	3.51[a]	.001
The opportunities to discuss work with families at patient rounds, care conferences, or staff meetings	3.82	.60	3.25	1.10	2.72[b]	.01
The records that one is expected to keep about one's work with families	3.58	1.08	3.19	.99	1.29[a]	.20
The opportunities for professional development provided by the agency for work with families	3.83	.94	2.82	.95	3.53[a]	.001
The accessibility of mentors or consultants when you need input	3.91	.70	3.33	.99	2.52[b]	.02
The participation of other clinicians who work with a family	3.92	.67	3.37	1.10	2.54[b]	.02
The collaboration with other nurses (hospital, public health) in one's work with families	4.08	.67	3.41	.97	3.16[b]	.006
The opportunities to be a part of developing new information about working with families	4.08	.67	3.14	1.02	4.38[b]	< .001
The opportunity to try new things that you are learning with other families	4.42	.51	3.20	.94	7.05[b]	< .001
Overall satisfaction	4.12	.41	3.36	.70	5.57[b]	< .001

Note. The scale ranges from very dissatisfied (1) to very satisfied (5).
M = mean; *SD* = standard deviation.
[a]Equal variance is assumed. [b]Equal variance is not assumed.

Mothers in both groups did not differ significantly, using the Mann–Whitney *U* test, on age [GP group, *M* = 28.7 (*SD* = 6.5); SC group, *M* = 27.1 (*SD* = 4.7)] or education [GP group, *M* = 12.9 (*SD* = 2.0); SC group, *M* = 13.5 (*SD* = 2.0)]. None of the mothers were married or living with a partner in the SC group, whereas two-thirds of the mothers in the GP group were. All of the mothers in the SC group were African American compared with two-thirds of the mothers (n = 8) in the GP group. Two of the GP group mothers were Euro-American, one was Asian, and one was Latina. Only one of the four mothers in the SC group had poverty status, according to the income category data mothers reported on a personal attribute and family data form and the federal poverty guidelines (U.S. Census Bureau, 2004). GP and SC group infants were not significantly different on birth weight

TABLE 4

DESCRIPTIVE STATISTICS FOR RELATIONSHIP AND CAREGIVING COMPETENCIES OBSERVED ON FOUR OCCASIONS FOR GUIDED PARTICIPATION (N = 12) AND STANDARD CARE (N = 4) GROUPS

Competency Type/ Assessment Time (PTA)	Guided Participation Group			Standard Care Group		
	M	*SD*	Range	*M*	*SD*	Range
Relationship[a]						
1 month	16.1	6.9	3–24	18.7	3.9	15–24
4 months	17.9	6.1	7–25	20.5	4.3	15–24
8 months	17.0	5.8	4–24	19.7	3.3	16–24
12 months	15.7	6.6	4–24	22.5	1.7	20–24
Caregiving[b]						
1 month	8.5	2.0	6–11	9.7	0.9	9–11
4 months	9.0	2.4	4–11	9.2	1.2	8–11
8 months	7.3	3.4	2–11	10.2	0.5	10–11
12 months	7.7	3.4	1–11	10.0	1.0	9–11

Note. There were no differences between groups, using the Mann–Whitney *U* test, on any variables except Relationship Competencies at 8 months (U = 6.0, 2-tailed p = .03).
M = mean; *SD* = standard deviation; PTA = infant post-term age.
[a]The descriptive statistics are derived from the total number of the 27 Relationship Competency Assessment items observed for each mother. [b]Total number of the 11 Caregiving Competency Assessment items observed.

[GP group, M = 1,097 g (SD = 289.9); SC group, M = 1,148 g (SD = 359)] or on total days in the NICU [GP group, M = 55.2, (SD = 23.5); SC group, M = 53.5 (SD = 26.8)]. Both GP and SC groups had equal numbers of male and female infants. Although the percent of infants with a diagnosis of bronchopulmonary dysplasia did not differ significantly between groups, using Fisher's exact test, the GP group had a larger percent [GP group = 42% (n = 5 of 12); SC group = 25% (n = 1 of 4)].

The relationship and caregiving competency scores for the four assessments are listed in Table 4. Overall, mean scores were lower and standard deviations were higher for the GP group than for the SC group on both types of competencies. Although maximum scores were similar in both groups, minimum scores were lower in the GP group than in the SC group on both types of competencies for all four assessments. None of the differences between the GP and SC groups were significant, using the Mann–Whitney U test, except at 12 months, infant post-term age (U = 6.0, 2-tailed p = .03). The decrease in both RCA and CCA scores after 4 months (infant post-term age) was not significant using general linear repeated measures analysis.

The findings of this very small sample study can be used only to describe families' experience of the program rather than to examine hypotheses about effectiveness. However, findings suggest the need for in-depth examination of the processes through which guided participation is implemented, the kind of guided participation practices NICU and public health nurses develop with families in varying circumstances, and the kind of guided participation processes and practices that may be most useful with families as the infant grows older and family conditions change.

As nurses described family circumstances during mentoring and reflective supervision sessions, it seemed to faculty that families may have been selected by NICU nurses for guided participation because of special needs. These needs may not have been captured in the personal and family attributes that were used to describe and compare families' instability of relationships within the mother's family of residence or origin, violence or risk of violence experienced by mothers, inaccessibility to public health nurses by mothers who worked at the time of day the public health nurse was available, maternal mental health or substance use problems, complex infant feeding problems or neurodevelopmental delays requiring therapy, several youthful mothers living on their own with preschool children and the VLBW infant, and serious maternal illness or illness of a family member. For one family, the public health nurse worked exclusively with the infant's grandmother. However, relationship and caregiving competencies of the mother were assessed according to study protocol.

Although participating nurses were supported by administrators in investing the time and energy needed for guided

TABLE 5
MOTHERS' COMMENTS ABOUT THE GUIDED PARTICIPATION PROGRAM

Mother	Comments
1	I learned about different resources.
2	Being in the program helped me learn more about my baby.
3	The nurse helped me think about questions to ask the doctor. I called the doctor less because the nurse came, and I felt more relaxed. The nurse was interested in me as a person and gave me confidence.
4	The nurse and family service clinician came when I needed them. I had confidence in what the nurse told me. She knew what she was talking about.
5	I wish I had reached out more to the nurse. I would have liked the nurse to help the doctor to accept my wishes about the baby's formula.
6	The nurse helped me understand what was going on. I learned that paying attention to my baby made a difference in how well my baby ate.
7	The nurse helped me learn about my baby. I was more comfortable with my baby because the nurse worked with me. The nurse helped me communicate with the doctor through a record of growth and dietary intake that I could take to the clinic when my baby was seen.
8	The nurse helped me know how my baby was growing. It was nice to know how she was doing, especially because she was so small.
9	By talking with the nurses, I resolved my disappointment about not being able to breast feed my baby. The nurse in the hospital helped me anticipate what the experience of caring for my baby on a monitor and on oxygen would be like.
10	The nurse in the hospital helped me learn to feed my baby. The public health nurse gave me information about premature babies. She also helped me get a perspective about myself, including self-esteem. She kept my head up and my eyes focused. She helped me not to let anything stand in the way.
11	The public health nurse helped me figure out how to help the baby keep formula down and if he was getting enough formula. She also helped me figure out when he could handle more stimulation.
12	I learned a lot about my baby that I would not have learned if I had not been in the Program, particularly about growth and about interacting with healthcare professionals. I learned what they would ask and expect at visits. I went prepared and could answer their questions.

participation by families, what was required of nurses to support relationship and caregiving competency development may either have been underestimated or it was more than a nurse could reasonably deliver in the context of all of her responsibilities. As infants grew older and more robust physically and as they began to self-feed a more varied diet, public health nurses may have viewed guided participation to be less important to families. Although the family service clinician continued to work with several families in the GP group through the infant's first post-term year, families could determine when they no longer needed her services. Some families perhaps could have profited by a stronger link with the family service clinician and arrangements for reconnecting with her for ongoing service. The reliability of the RCA and CCA could not be examined with an equivalently trained rater in this study, and is, therefore, a question in evaluation of findings.

Post-Program Interviews

At the end of their program participation (12 months infant post-term age), 8 of the 12 mothers in the GP group rated their satisfaction as a 6 (very satisfied) on a 6-point scale. Two of the three mothers who rated their satisfaction as 4 participated in a very limited way. The mother whose satisfaction rating was 5 would have liked the public health nurse to be more aggressive in helping her resolve a conflict about the infant's formula with the primary care physician. Only one of the mothers said the program participation took too much time. Mothers' comments about how the Guided Participation Program had helped them are provided in Table 5. These comments reveal differences among mothers in their experiences, goals, and expectations. Periodic review of participant goals and expectations may increase mothers' motivation to participate and investment in the program.

CONCLUSION

The major strengths of the continuing education program were: (1) its design for closeness to family needs and practice realities experienced by the nurse participants; (2) a model of education that was consistent with the theory of guided participation as a means of supporting competency development; (3) mentored clinical practice with families and group supervision for reflection on this

key points

Caregiving for Very Low Birth-weight Infants

Pridham, K., Limbo, R., Schroeder, M., Krolikowski, M., Henriques, J. **A Continuing Education Program for Hospital and Public Health Nurses to Guide Families of Very Low Birth-weight Infants in Caregiving.** *The Journal of Continuing Education in Nursing, 37*(2), 74-85.

1. Learning or competency development for a new role, including caregiving for a very low birth-weight, prematurely born infant, occurs through both guidance and participation.
2. Guided participation requires a shared focus and purpose expressed in collaborative processes of problem solving.
3. Organizational resources, including administrative arrangements and peer collaboration, are essential to guided participation practice.

practice; (4) program flexibility that accommodated and made use of organizational goals and resources of participating agencies; and (5) opportunities for nurses who were committed to developing their practice with families to develop collaborative relationships with other nurses either within the same agency (hospital or public health) or across agencies. Observation of the nurses' work with families through individual mentoring and reflective supervision sessions revealed that nurses gained competencies in gaining joint attention, making connections, and problem solving with family caregivers. Nurses also developed competence in communicating with the VLBW infant's primary care providers and other clinicians.

Program development is needed to establish and strengthen mechanisms to facilitate and maintain the engagement of nurses with families in guided participation practice on an ongoing basis. One of the most useful and relatively low-cost methods may be ongoing reflective supervision sessions. Practice agencies need to be convinced of the importance, utility, and economy of providing resources to support these ongoing sessions. Needed resources for reflective supervision include funding for a group supervisor and support for nurse participant release time.

Another mechanism to support the development and establishment of guided participation practice in an agency involves opportunities for nurses to problem solve issues of family caregiving with each other in structured settings such as patient rounds, care conferences, staff meetings, and ad hoc problem-focused conferences. Methods that are efficient and functional for nurses' documentation or description of family work, including family caregiving issues and competencies to be developed, maintained, or transferred to new situations, need to be constructed. Tracking of family goals, expectations, and intentions for guided participation may support more effective and efficient guided participation.

On the whole, the program demonstrated that hospital and public health nurses could be prepared through continuing education for guided participation within an agency setting or across agencies. The study of nurse satisfaction, maternal relationship and caregiving competencies, and mothers' description of their satisfaction with the program and what they experienced in it provided insights about changes that may strengthen it. What is needed to sustain and cultivate the development of guided participation practice beyond a novice stage remains to be explored.

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