

Using Assistive Technology Focus Groups with Families Across Cultures

Phil Parette
Illinois State University

Mary Blake Huer
California State University-Fullerton

Jack J. Hourcade
Boise State University

Abstract: While numerous approaches exist to gather information from families having cultural and linguistically diverse backgrounds and who have children with developmental disabilities, the use of assistive technology (AT) focus groups holds great promise for professionals. This article provides an overview of a process that can be implemented in school settings by professionals who desire to understand the unique AT needs of families with cultural and linguistically diverse backgrounds. Specifically, a four-phase strategy is presented for collecting information from families regarding their perceptions of school professionals, appropriateness of their child's interventions, and other important attitudes that families might have toward various AT-related activities in which their child is a participant. Emphasis is placed on the right person asking the right questions in the right way to the right persons at the right time and place.

In recent years, children with developmental disabilities from diverse cultural backgrounds and their families have increasingly been given attention in the assistive technology literature (cf. Hourcade, Parette, & Huer, 1997; Huer & Saenz, 2003; Kemp & Parette, 2000; Parette, 1999). Much of this literature has focused on the process of identifying and implementing appropriate assistive technology devices and services. The traditional approach of AT has emphasized the student and classroom in the AT decision-making process (cf. Institute for Matching Person and Technology, 1999; Reed & Bowser, 1998; Williams, Stemach, Wolf, & Stanger, 1995; Wisconsin Assistive Technology Initiative, 1998; Zabala, 1998). Each of these approaches for assessing AT needs emphasizes the *process* of assessment using a multidisciplinary, collaborative team that employs ecological, functional assessment strategies (Bromley, 2001).

During the AT decision-making process, specific dimensions that have an effect on AT

decision-making have been examined, including child characteristics, device features, service system issues, family issues, cultural factors (Parette, 1997). Others have examined evaluation, selection, accommodation, and use of AT in the context of characteristics (a) of the technology, (b) (and) requirements of the milieu/environments of use, and (c) (and) resources of the person (Institute for Matching Person and Technology, 2002). Specific approaches for working with these families have been noted that acknowledge differences in value systems exhibited by professionals whose perceptions of child/family needs are often markedly different from the needs articulated by families (Parette & McMahan, 2002; Parette, Brotherson, & Huer, 2000; Parette, Huer, & Brotherson, 2001).

For example, Parette et al. (2001) found that professionals participating in focus groups tended to be less (a) family-centered, (b) sensitive to cultural issues, and (c) aware of the potential impact of stressors associated with the introduction of AT into family systems, thus supporting earlier surveys of state AT decision-making practices and perceptions held by professionals (Parette & Hourcade, 1997). Failure to acknowledge family priorities,

Correspondence concerning this article should be addressed to Phil Parette, Department of Special Education, Illinois State University, Campus Box 5910, Normal, IL 61790-5910.

resources, and concerns during decision-making—particularly internal and external demands, including stressors and cultural values—may result in ineffective decision-making and AT abandonment on the part of families and children with developmental disabilities. As noted by Parette et al. (2001):

Professionals must acknowledge the cultural traditions, hopes, and value systems of families, and understand how these traditions and values influence the thinking and behavior of children and their families. To effectively accomplish this, efforts should be made to involve all family members—both immediate and extended—with whom the child with mental retardation and other developmental disabilities may be using the device. Such involvement will assist professionals to ensure that the range of . . . needs of the child across environmental contexts, and when interacting with particular individuals within those contexts, are accurately identified. (p. 80)

Unfortunately, when working with families from diverse cultural backgrounds, approaches to AT decision-making are all too often couched in the values and belief systems of Euro American professionals. Such values as communication style (e.g., preference for eye contact, direct questions, probing feelings, Roseberry-McKibbin, 2002), perception of disability (e.g., that it is attributable to known causes and can thus be ‘fixed’, Hanson, 1997), perception of child care (i.e., high expectations for self-help and self-reliance, Kagan, 1984), importance of independence (Hanson, Lynch, & Wayman, 1990), and informality in human interactions (e.g., using first names in greetings, casual dress, Althen, 1988) typically manifest in specific approaches and strategies used by professionals when working with families during the AT decision-making process. Family members from different cultural backgrounds do, not always perceive these Euro American values, and the resulting strategies and approaches that are shaped by these values, favorably.

For example, if an African American family member is approached informally during the first AT team meeting, and the family member’s first name is used; this may be perceived

as a lack of respect (Willis, 1992). Similarly, to suggest to the family member that the child engage in solitary learning activities involving the AT might not be sensitive to the family’s (and child’s) preference for group learning activities (Dabney, Clingmon, Clark-Thomas, Coonce, & Wyatt, 1994). King (1999) noted that AT professionals must be sensitive to whether or not the child with developmental disabilities and his/her family come from *high context* or *low context* cultural backgrounds. High context cultures include many Hispanic, Native, African, and Asian cultures and place great emphasis on understanding through (a) shared experience, history, and physical cues (Lynch, 1997); and (b) perceived social position of the family and extended family group as a unit and as a community vs. personal achievement (Battle, 1993; Hall, 1984). Low context cultures, such as Euro American culture, tend to minimize the importance of groups in society while placing great emphasis on individualism and personal achievement (Hecht, Andersen, & Ribeau, 1989).

When such culturally insensitive strategies are used during AT decision-making processes, powerful messages regarding the perceived value of the family and their cultural background may be communicated inadvertently by professionals. This may have the unanticipated result of minimizing team effectiveness, particularly commitment on the part of the family, and potentially result in the selection of AT that may ultimately be abandoned by the child and family. This suggests a need to examine information-gathering approaches and strategies used to encourage family involvement in AT decision-making used by school systems.

Despite the growing recognition of the importance of recognizing the voices of families (Parette et al., 2000), AT decision-making continues to rely heavily on the input, preferences, and expertise of professionals versus family members (Parette & Hourcade, 1997). Historically, related services personnel such as speech/language pathologists have assumed primary responsibility on teams for identifying *appropriate* AT devices for children with disabilities. As Garshelis and McConnell (1993) noted: “For many years professionals have determined goals for families with children who

have handicaps based solely on their own assessments of family needs” (p. 37).

Even in professional AT textbooks there is still an undertone suggesting the primary importance of professional insights and knowledge during team decision-making (see e.g., Lindsey, 2000), with relatively little information regarding the role of families in the decision-making processes. Interestingly, professional perspectives are often not shared by family members, particularly those from other cultures (Soto, Huer, & Taylor, 1997). However, many professionals continue to assume primary responsibility for AT decision-making.

Gathering Information to Assist in AT Decision-Making

For professionals, the task of gathering information that is accurate, valid, reliable, and relevant is particularly challenging when working with culturally diverse groups during AT decision-making (Bevan-Brown, 2001). To effectively work with persons from culturally diverse backgrounds demands understanding of cultural bias, or preconceived points of view, customs, beliefs, practices, sample sizes, procedures, protocols, translations, and interpretations (Huer & Saenz, 2002). Minimizing bias and planning collaborative research approaches, in particular, “requires constant vigilance and effort” (Bevan-Brown, 2001, p.139).

An additional consideration is the relationship between the culture/s of AT professionals and the culturally diverse communities with whom professionals may be involved, particularly when the professionals are members of the dominant, or Euro American culture. Sometimes, family members from culturally diverse communities who have children with developmental disabilities served by the schools during AT decision-making may be concerned sharing information with professionals from the larger culture (Huer & Saenz, 2002). This can be an artifact of a result of a history of racism and discrimination (Terrell, Battle, & Grantham, 1998) or a lack of acceptance of views or practices by the dominant culture. In addition, AT professionals may inadvertently fail to recognize and/or acknowledge important cultural issues because of dif-

ferences in perspectives and life experiences. Huer and Saenz observed that professionals may overlook or ignore important differences in viewpoints or practices, or subconsciously adopt an adversarial mindset that devalues perspectives of culturally diverse family members. This may result in AT interpretations, outcomes, and approaches that are unintentionally discriminatory, condescending, or patronizing.

Typically, teachers and other professionals use a variety of approaches to get information from families, including interviews, use of questionnaires, and ecological observations during AT decision-making processes. These strategies, while sometimes effective in providing highly specific information related to an individual family and child, generally do not provide information regarding broad cultural issues that might exist as well as important service strategies for a larger class of individuals being served by the school (see e.g., Lynch & Hanson, 1997; Parette, 1998). For example, using only a structured interview approach, professionals might identify some highly specific needs for one Hispanic family (e.g., the child wants a computer for academic activities; the family prefers that the child use the AT in group learning activities vs. solitary learning activities), though broader issues relevant to other Hispanic families served by the professionals might be overlooked (e.g., preferences for a community liaison to provide specific AT training vs. by a school professional; understanding the perceived importance placed on education by the family). Identification of broad culturally and linguistically sensitive family AT concerns are critical if the specific needs of children and families are to be effectively addressed; such concerns typically provide the “backdrop” against which effective service delivery should be implemented.

The AT Focus Group: An Effective Information-Gathering Approach

One approach that has the potential for great utility for special education and related service professionals during AT decision-making is the use of *assistive technology focus groups* (see e.g., Greenbaum, 1993; Krueger, 1988). Generally, a focus group is a structured informa-

tion-gathering strategy in which (a) a small group of individuals from a specific cultural background (e.g., Vietnamese; Mexican-Americans; Cuban Americans) is brought together; (b) a moderator presents specific questions (based on a research knowledge base—cultural issue areas that appear to be specific to the group); (c) participants are allowed to respond to the questions posed or provide additional responses not necessarily related to the question with the moderator pursuing the “new” or “emerging” issues; (d) responses to questions are captured (e.g., audio taped, videotaped) and transcribed; (e) narrative, typed, transcriptions are analyzed to identify themes for the specific group; and (f) action is taken to address the themes identified. Figure 1 presents an overview of the various phases involved in the assistive technology focus group process. This process can prove to be invaluable in gaining insights—often unanticipated outcomes—regarding the AT needs and preferences of families from specific culturally and linguistically diverse backgrounds (see Huer & Parette, 1999).

An important caveat for using focus groups as an information-gathering approach with families from culturally diverse backgrounds and who have children with developmental disabilities is ensuring that the “*right person* (italics added). . .ask the *right questions* of the *right people* in the *right way* at the *right place* and *time* (the six “Rs”)” (Bevan-Brown, 2001, p. 139). These six requirements provide a conceptual framework from which professionals may begin to dialogue about culturally appropriate information-gathering practices during AT decision-making, particularly when using focus groups. Each of these requirements is addressed in the following sections as phases for focus group implementation are described.

Phase 1-Preparations Before Meeting with the Families: Identifying the Right People to Ask the Right Questions

During the first phase, professionals (a) identify an ethnic/cultural/language group (or groups) of interest based on the demographics of the children with developmental disabilities within their schools; (b) conduct reviews of the literature regarding AT best practices,

protocols, and questions that might be explored using the assistive technology focus groups; and (c) determine the right people to ask the right questions. Efforts should be made to read about and understand the basic skills required for effective focus group moderation (see e.g., Huer & Parette, 1999; Parette et al., 1999). Bevan-Brown (2001) emphasized the importance of the *right person* asking questions during an information-gathering activity such as focus groups. A moderator who represents the cultural or linguistic background of the AT focus group participants is most ideal and desirable, as members of the team should always include members from within the community of interest. Though sometimes difficult to implement, this ideally requires that the interviewer and interviewees to be suitably matched by gender, age and socioeconomic status. In some cultures, for example, a man cannot ask a woman personal questions, precluding his ability to obtain background information that might be helpful in AT decision-making without violating cultural norms. Studies that have employed such changes in AT information-gathering strategies have been reported elsewhere in the literature (cf. Huer, 2000; Huer, Saenz, & Doan, 2001). When investigators have the same ethnic background and cultural experience as participants, issues arising from differences between one population and another are often mitigated (Huer & Saenz, 2002).

Specific AT issues or questions to be presented to the focus groups may originate from past experiences of professionals working with families, and other literature sources that offer a framework for specific questions that might be asked, as well as the protocol for conducting the focus group. A sample protocol and questions related to an assistive technology-oriented focus group are presented in Figures 2 and 3. In addition, educators should include other individuals as members of the information gathering and planning team including (a) a moderator having expertise in working with focus groups (if no such educator with the appropriate training is available); and (b) members from within the community of interest, for validation of the topics selected. Making decisions about the questions that will be asked is not a straightforward task, and presents substantial challenges to AT pro-

Phase 1 - Preparations Before Meeting with the Families

- identify cultural group of interest
- review AT and other literature related to issues or questions
- develop protocol to guide the process of conducting group/s
- gather other individuals, moderator and member from within group of interest
- decision-making as to process
- identify potential participants

Phase 2 - Extending Invitations to Participate and Providing Supports

- extend invitations to participate
- include community liaison
- provide information to participants

Phase 3 – Conducting the AT Focus Group

- ensure supports are available and provided as promised
- provide appropriate communication style, atmosphere for target group
- begin implementation of process
- audio or videotape capture
- provide adequate time for all processes
- ask for permission for follow up

Phase 4 – Conducting the AT Focus Group

- transcribe record of group interaction
- examination, analysis of text by at least two reviewers
- summarize emerging themes

Figure 1. Sample assistive technology focus group process. © 2003, by H. P. Parette & M. B. Huer, used with permission.

Sample AT Focus Group Protocol

- Provide refreshments and time for socialization before start of meeting, when appropriate.

Moderator:

The purpose of this group coming together today is to discuss issues about computers and how they affect Mexican American families having children with disabilities.

Each of you has been asked to be here today because you have a child who will have (or who uses) a computer. You have experiences in working with professionals during the assistive technology assessment process. You may also have your own personal insights, feelings, and experiences with computers that are important for those of us trying to understand how these devices affect families.

I will help guide the discussion that we have today and will be presenting a series of questions for you to think about and comment on as a group. Again, the focus of our discussions will be on the impact of computers on families. Remember, your thoughts and concerns will be used to develop approaches to better serve you and other families. Consequently, we will be using a tape recorder to capture our discussion so that it can be used later.

- Explain how the group will proceed.

Moderator:

First, we will talk about the ground rules for the focus group. Then we will ask for introductions.

- Be sure to use a microphone that can record the very highest quality sound possible.

I will then ask some questions and all participants will join in with responses and other questions. You may agree or disagree with any statement that is made. All opinions by group participants will be respected. We will be recording your participation using a tape recorder.

- If an interpreter is used, explain his/her role.
- Pass out name tags to participants.

Review the ground rules:

- We would like to hear from everyone.
- This is an open conversation and you can ask questions and respond to each other.
- There are no right and wrong answers.
- You are the experts.

Turn on the tape recorder and ask each person to introduce him/herself.

Ask the first question and choose someone to start; continue with responses and other questions.

Ask second question. Bring in all persons (e.g., "Bob, what do you think about that?")

Before closing, ask if there are any other questions they have or want addressed. ("Do any of you have anything else that you want to say?").

Member checks

Then ask participants if anyone would be willing to participate in a follow-up contact by phone call later. The purpose of this phone call will be to conduct a "member check" to verify the issues identified by the group. We will simply identify the major issues that were discussed by the focus group participants and the members will give us feedback regarding the accuracy of our statements. Get the names and phone numbers of 2-3 participants willing to participate, and identify an appropriate time that is best to call for the member check.

Thank everyone for coming and participating in the group.

Conduct debriefing immediately and write down impressions and reactions (it is important to make oral notes directly on the tape at this point in time).

Figure 2. Sample protocol for an AT diversity focus group.

Specific Questions for Family Protocol:

Let's explore in what ways, if any, the computer might effect or has effected your family?

Probe questions depending on number of responses offered by group:

- Do you see it affecting (or has it effected) roles that you must assume?
- Do you think it would effect organization of the home environment?
- Do you think it would effect relationships with family members?
- Do you think it would effect demands placed on your time?
- Do you think it would effect levels of stress that you currently experience?
- Do you think it would effect your relationship with others, particularly in the community?
- Do you think it would effect your ability to take your child into the community, to eat at restaurants, or other social or recreational activities?
- What have been your greatest concerns in working with professionals in getting your child's computer?
- What should the role of professionals be when trying to work with you to get your child a computer?
- What things about computers that were important to you did professionals not consider?
- If you could tell professionals how to better work with families when trying to identify computers for children, what would you say?
- How, if at all, are the values and beliefs of professionals different from yours? If so, how did these differences effect what happened when decisions were being made about computers?
- Is there anything else about this subject that I haven't asked you about?

Figure 3. Sample questions for an AT diversity focus group.

professionals to understand the culture(s) being investigated. For example, Huer (2000) reported that questions about AT-related issues posed to consumers, families, and clinicians from different cultural backgrounds may not have perceived in the same way, which raised questions regarding (a) how such differences in perceptions might affect the success of the intervention provided, and (b) whether differences in perception negatively impact the child's acquisition, generalization, and/or maintenance of newly acquired skills? Selection of the right questions will often require professionals to discuss definitions of beliefs, values, practices, experiences, language, and representations and other aspects of human experience.

Understanding varying cultural views of disability and its relationship to diagnosis and treatment may be crucial to AT interventions provided for children with developmental disabilities and their families. For example, Parette et al. (2000), Huer et al. (2001), and Chuang (2002) reported different perspec-

tives of disability. Parette et al. (2000) noted stigma being associated with disabilities within the community and the difficulties individuals with disabilities faced. This preliminary information provided a rationale for specific questions subsequently posed to family members in a survey of a larger group of respondents (Huer et al., 2001) in which participants did not report rejection of individuals with disabilities. Chuang's (2002) study of first generation Asian families paralleled the findings of Huer et al., though each of the three studies reflected an apparent diversity of opinions within the community being studied. Interestingly, common to both samples from the Vietnamese-American population in the Huer et al. study was the belief that there was little that could be done for individuals with disabilities, which would affect individuals' attempts to access available health care services. As noted by Huer and Saenz (2002) the differences of opinions revealed might have been attributable to differences in information-gathering approaches used.

Consideration of diverse cultural values is another important aspect of asking the right questions (Bevan-Brown, 2001). For example, *individualism* (e.g., learning to care for oneself and become independent of the family) is an important value of Euro American culture (Hanson, 1997) and is often a consideration when making decisions about appropriate AT for children with developmental disabilities. In other cultural groups having a *collectivist* orientation (e.g., many Asian, African, and Latin cultures) persons are expected to be more interdependent and to rely on one another (Triandis, Brislin, & Hui, 1988), that might mitigate against recommendations for certain types of AT designed to promote independent functioning.

Huer and Saenz (2003) noted that the extent to which value is placed on independence versus dependence may or may not be readily apparent during AT decision-making processes. For example, family members with limited English proficiency may assume primary care for children with disabilities and thus clearly demonstrate a 'preference' for dependence on the part of the child when an AT solution is being considered. However, recent studies (cf. Chuang, 2002; Huer, Parette, & Saenz, 2001) reported preferences for electronic communication devices that used English speech only vs. the child's native (or home) language. While on the surface, it might easily be interpreted that these families did not value independence (since the devices could not be used in the home environments), Huer and Saenz (2003) noted a variety of alternative explanations which appear to lie along a continuum ranging from valuing dependence to aspirations for total independence on the part of the child. Rather than relying on interpretations of those gathering information, more accurate insights may be gained from responses to questions to about cultural values.

Another aspect of asking the right question is related to the concepts expressed by means of language (Bevan-Brown, 2001). For example, Li (1999) reported that bilingual individuals who are fluent in communicating in their second languages conveyed considerably less information than in their first languages. This may be a function of vocabulary existing in one language but not in the other, or words in

one language not conveying messages easily translated into the other language (American Speech-Language-Hearing Association, 2003). Similarly, nonverbal communication cues or language patterns have been misunderstood because of cultural differences (Southworth, 1999). The very act of interviewing may be foreign to members of some cultures with the potential reactions of confusion or mistrust (Designing and Conducting Research, 2001). Similarly, members of some communities may be accustomed to communicating very indirectly and, as a result, find direct questions about sensitive topics unsettling (Chan, 1997; Uba, 1994). Questions, therefore, must be judged in terms of their cultural appropriateness and directness (Huer et al., 2001).

Finally, during Phase 1, decisions regarding how the AT focus group information will be captured should be made. Both videotape and audiotape are appropriate strategies, though audiotape allows easier transcription subsequent to conducting the diversity focus group. As the educational team nears the end of Phase 1, family members from specific cultural and linguistic backgrounds who might be willing to participate in the focus group should be identified. Efforts should be made not to mix families from culturally and linguistic subgroups within a larger cultural group (e.g., families with backgrounds from Spain are different from Mexican Americans who are also different from Cuban Americans, though all are generally viewed by Euro Americans as being of Hispanic origin).

Phase 2-Extending Invitations to Participate and Providing Supports: Importance of the Right Person

When bringing groups of people who have children with developmental disabilities together from culturally diverse communities, it is desirable to have a large and varied sample of members to ensure representation of the community. A number of factors should ideally be considered, including differences in age, exposure to the larger culture, age of immigration, socioeconomic status, and number of years in a new or different country (Padilla & Lindholm, 1995; Stewart, Bond, Deeds, & Chung, 1999). However, a caveat to ensuring representation is the ever present

danger of overlooking potentially important participants. Huer and Saenz (2002) reported that inclusion of members of extended family as participants in focus groups facilitated understanding of the AT issues being explored. Once a group of family members has been identified, invitations should be extended to participate. Depending on the degree of involvement demonstrated by the particular family members in the past, a community liaison (e.g., someone known within the cultural/linguistic community of concern) or interpreter might need to be employed to assist in making contact via telephone or personal contact. Families should be given information regarding the proposed diversity focus group, along with information regarding supports that will be afforded them, including, but not limited to child care for children during family participation, transportation, a small honoraria, and other needed supports to encourage participation. Reminders should be given to family members who consent to participate, and plans should be made to compensate families immediately (if possible) for their participation.

Phase 3-Conducting the AT Focus Group: Asking Questions in the Right Way in the Right Place and Time

Bevan-Brown (2001) noted that procedures for gaining access to culturally diverse groups and strategies for gathering information must be adhered to carefully during both planning and implementation phases. The language of the focus group instrument/protocol, the use of jargon by the interviewer, and culturally appropriate practices while conducting the focus group have been critical factors requiring careful prior planning. Huer and Saenz (2002) noted that a variety of strategies may need to be employed to build rapport and communicate respect for the cultural group participating in the information-gathering activity. For example, in conducting focus groups, Parette et al. (2000) reported serving special ethnic foods during the full day of interviews within a Hispanic community, but spent less time, without food, while conducting Asian community interviews. Another example of building and gaining trust and cooperation within a community was a procedure

followed in an information-gathering activity with Vietnamese individuals (Huer et al., 2001). In this study, a regional Vietnamese religious conference was used to distribute once it was realized that the literature suggested that Vietnamese American families had grown to distrust outsiders and to fear inquiries from government agencies (Heifetz, 1990; Lynch, 1997; To, 1993).

It is also important that on the scheduled day of the AT focus group, professionals should ensure that all identified supports, for example, honoraria, are provided to facilitate success of the activity, and to build trust (i.e., communicating to families that what was promised will be delivered). If the literature reviews and conversations with members from the community have indicated that the particular cultural and linguistically diverse group prefers a certain style of communication when gathering in groups, for example, socializing with refreshments, plans should be made for favorite food and drinks to be available to participants on the day of the focus group. When it is learned that a preferred style of communication emphasizes “timeliness,” the moderator should be attentive to beginning and ending the session as promised.

Another strategy has been to conduct the focus groups in the language or languages of the participants, if preferred (Huer, 2000; Huer, Parette, & Saenz, 2001; Huer et al., 2001). Huer et al., for example, prepared questionnaires both in English and Vietnamese, and offered the participants choice regarding the version they preferred.

Conducting the AT focus group in the right place is also a critical consideration (Bevan-Brown, 2001). Parette et al. (2000) reported meeting family members in a variety of settings including their homes, at their children’s schools, or at locations convenient for their jobs. The choice of a familiar site, as well as adopting the language of the participants and conducting interviews within a social interaction can minimize the risk of intimidation resulting from choosing a more formal and unfamiliar setting (Huer, Parette, & Saenz, 2001).

As appropriate for the group in attendance, the focus group should begin by suggested seating arrangements, introductions, and implementation of the protocol that was devel-

oped during Phase 1. The proceedings should be audio or video recorded to allow for later transcriptions to occur. As the moderator begins to lead the discussion, adequate time should be provided for each family member asking and answering questions, or making other comments, as well as adequate time for translations (as necessary) between the moderator and participants. As probe questions are presented and participants respond, additional concerns may be raised that were not anticipated in the original protocol. The moderator will probably want to pursue the newly identified issues with additional probe questions until the families have addressed their concerns fully, after which the moderator may lead the discussion back to the initial protocol questions, when appropriate and as time permits. At the conclusion of the focus group, families might be asked for permission to be contacted for follow-up at a later date to participate during the verification of the findings.

Phase 4-Examining the Findings

The record of the AT focus group (either audio- or videotaped) should be transcribed. Once a textual narrative of the proceedings is available, at least two different educators or reviewers examine the text for themes. Both reviewers examine the typed records of responses to questions and make notes in the margins of the transcripts, for example, several paragraphs of narrative might address a repeated concern about classroom objectives. Statements such as "I'm not sure what s/he is working on at school" and "I don't understand all the homework assignments" might simply be noted in the margin by the reviewer as "Class Objectives." Once all comments have been summarized into short notes, specific themes should be identified, for example, a number of notes made in the margins might be grouped under "Training Concerns" while other comments might fit under a theme of "Lack of Availability to Classroom Teacher." Family members may have also articulated concerns that are unique to their cultural and linguistic background that may be grouped by the reviewers under themes such as "Language Problems" or "Insensitivity of Professionals to Family Preferences." Each reader should examine the narrative and repeat this

process; differences in perceived important topics and themes will later be discussed between the two reviewers. Agreed upon AT themes and specific issues related to each should then be summarized and presented to targeted diversity focus group participants to verify/ respond to the summary statements. Inclusion of members from the particular group in question, during all phases of the diversity focus groups, provides for important and necessary verification of the process, and ensures representative and accurate summary of information discovered before implementation upon any decision-making or service delivery modification that is sensitive to the family's cultural/linguistic background.

Conclusion

The utility of the described AT focus group approach, coupled with incorporating the principles of the six Rs (Bevan-Brown, 2001) for collecting needed information necessary for effective and culturally/linguistically sensitive AT decision-making cannot be overemphasized. Although a relatively simple 4-phase description of the diversity focus group process has been presented, professionals will find that each AT focus group activity provides valuable understanding of the needs from within the educational system from the perspectives of a variety of families, often unique, deep and meaningful insights which do impact the educational process.

References

- Althen, G. (1988). *American ways: A guide for foreigners in the United States*. Yarmouth, ME: Intercultural Press.
- American Speech-Language-Hearing Association. (2003). *Children and bilingualism*. Retrieved February 3, 2003, from <http://www.asha.org/speech/development/Bilingual-Children.cfm>
- Battle, D. E. (1993). *Communication disorders in multicultural populations*. Boston: Andover Medical.
- Bevan-Brown, J. (2001). Evaluating special education services for learners from ethnically diverse groups: Getting it right. *Journal of the Association for Persons with Severe Handicaps*, 26, 138-147.
- Bromley, B. E. (2001). *Assistive technology assessment: A comparative analysis of five models*. *Conference Proceedings*. CSUN'S Sixteenth Annual International Conference Technology and Persons with Disabil-

- ities. Retrieved September 19, 2002, from <http://www.homemods.org/library/pages/ATAssess.htm>
- Chan, S. (1997). Families with Asian roots. In E. W. Lynch & M. J. Hanson (Eds.), *Developing cross-cultural competence. A guide for working with young children and their families* (pp. 251–344). Baltimore: Brookes.
- Chuang, S. J. (2002). *First generation Chinese family attitudes regarding disabilities and AAC school interventions*. Unpublished master's thesis, Southeast Missouri State University, Cape Girardeau.
- Dabney, M., Clingmon, I., Clark-Thomas, E., Cooce, G., & Wyatt, T. (1994). CSHA position paper: Assessment of the African-American child. *California Speech Hearing Association*, 21(3), 1–17.
- Designing and conducting research with diverse consumer groups: Implications and considerations. (2001). *Research Exchange*, 6(2). Retrieved February 3, 2003, at <http://www.ncddr.org/du/researchexchange/v06n02/design.html>
- Garshelis, J. A., & McConnell, S. R. (1993). Comparison of family needs assessed by mothers, individual professionals, and interdisciplinary teams. *Journal of Early Intervention*, 17(1), 36–49.
- Greenbaum, T. L. (1993). *The handbook for focus group research*. New York: Lexington Books.
- Hall, E. T. (1984). *The dance of life: The other dimension of time*. Garden City, NY: Anchor Books.
- Hanson, M. J. (1997). Families with Anglo-European roots. In E. W. Lynch & M. J. Hanson (Eds.), *Developing cross-cultural competence. A guide for working with children and their families* (pp.93–120). Baltimore: Brookes.
- Hanson, M. J., Lynch, E. W., & Wayman K. (1990). Honoring the cultural diversity of families when gathering data. *Topics in Early Childhood Special Education*, 10, 112–131.
- Hecht, M. L., Andersen, P. A., & Ribeau, S. A. (1989). The cultural dimensions of nonverbal communication. In M. K. Asante & W. B. Gudykunst (Eds.), *Handbook of international and intercultural communication* (pp. 163–185). Newbury Park, CA: Sage.
- Heifetz, J. (1990). *The acculturation of Vietnamese refugee adolescents and adults in Los Angeles*. Unpublished doctoral dissertation, University of California, Los Angeles.
- Hourcade, J. J., Parette, H. P., & Huer, M. B. (1997). Family and cultural alert! Considerations in assistive technology assessment. *Teaching Exceptional Children*, 30(1), 40–44.
- Huer, M. B. (2000). Examining perceptions of graphic symbols across cultures: A preliminary study of the impact of culture/ethnicity. *Augmentative and Alternative Communication*, 16, 180–185.
- Huer, M. B., & Parette, H. P. (1999). Examining the perspectives of families: Issues related to conducting cross-cultural research. In F. T. Loncke, J. Clibbens, H. H. Arvidson, & L. L. Lloyd (Eds.), *Augmentative and alternative communication: New directions in research and practice* (pp. 290–300). London: Whurr.
- Huer, M. B., Parette, P., & Saenz, T. (2001). Conversations with Mexican-Americans regarding children with disabilities and augmentative and alternative communication. *Communication Disorders Quarterly*, 22, 197–206.
- Huer, M. B., & Saenz, T. (2002). Thinking about conducting culturally-sensitive research in augmentative and alternative communication. *Augmentative and Alternative Communication*, 18, 267–273.
- Huer, M. B., & Saenz, T. I. (2003). Challenges and strategies for conducting survey and focus group research with culturally diverse groups. *American Journal of Speech-Language Pathology*, 12, 209–220.
- Huer, M. B., Saenz, T. I., & Doan, J. H. D. (2001). Understanding the Vietnamese-American community: Implications for training educational personnel providing services to children with disabilities. *Communication Disorders Quarterly*, 23, 27–39.
- Institute for Matching Person and Technology. (2002). *Matching person and technology assessment process*. Retrieved September 24, 2002, from <http://members.aol.com/impt97/mptdesc.html>
- Kagan, J. (1984). *The nature of the child*. New York: Basic Books.
- Kemp, C., & Parette, H. P. (2000). Barriers to minority parent involvement in assistive technology (AT) decision-making processes. *Education and Training in Mental Retardation and Developmental Disabilities*, 35, 384–392.
- King, T. W. (1999). *Assistive technology: Essential human factors*. Boston: Allyn and Bacon.
- Krueger, R. A. (1988). *Focus groups: A practical guide for applied research*. Newbury: Sage.
- Li, H. (1999). Communicating information in conversations: A cross-cultural comparison. *International Journal of Intercultural Relations*, 23, 387–409.
- Lindsey, J. D. (Ed.). (2000). *Technology and exceptional individuals* (3rd ed.). Austin, TX: PRO-ED.
- Lynch, E. W. (1997). Developing cross-cultural competence. In E. W. Lynch & M. J. Hanson (Eds.), *Developing cross-cultural competence. A guide for working with young children and their families* (pp. 47–90). Baltimore: Brookes.
- Lynch, E. W., & Hanson, M. J. (Eds.). (1997). *Developing cross-cultural competence. A guide for working with children and their families* (2nd ed.). Baltimore: Brookes.
- Lynch, M. (1997). *The experience of Southeast Asian refugee families: An exploration of family identity*. Unpublished doctoral dissertation, Oregon State University, Corvallis.
- Padilla, A. M., & Lindholm, K. J. (1995). Quantita-

- tive educational research with ethnic minorities. In J. A. Banks & C. A. McGee Banks (Eds.), *Handbook of research on multicultural education* (pp. 97–113). New York: Macmillan.
- Parette, H. P. (1997). Assistive technology devices and services. *Education and Training in Mental Retardation and Developmental Disabilities, 32*, 267–280.
- Parette, H. P. (1998). Cultural issues and family-centered assistive technology decision-making. In S. L. Judge, & H. P. Parette (Eds.), *Assistive technology for young children with disabilities: A guide to providing family-centered services* (pp. 184–210). Cambridge, MA: Brookline.
- Parette, H. P., Brotherson, M. J., & Huer, M. B. (2000). Giving families a voice in augmentative and alternative communication decision-making. *Education and Training in Mental Retardation and Developmental Disabilities, 35*, 177–190.
- Parette, H. P., & Hourcade, J. J. (1997). Family issues and assistive technology needs: A sampling of state practices. *Journal of Special Education Technology, 13*, 27–43.
- Parette, H. P., Huer, M. B., & Brotherson, M. J. (2001). Related service personnel perceptions of team AAC decision-making across cultures. *Education and Training in Mental Retardation and Developmental Disabilities, 36*, 69–82.
- Parette, H. P., VanBiervliet, A., Brotherson, M. J., Huer, M. B., Stuart, S. L., Hoge, D. R., Hostetler, S. A., & Heiple, G. (1999). Revised focus group protocol and instrumentation. In P. Parette, A. VanBiervliet, J. W. Reyna, & D. Heisserer (Eds.), *Families, culture, and augmentative and alternative communication (AAC). A multimedia instructional program for related service personnel and family members* (pp. 707–746). [On-line]. Retrieved March 1, 2002, from <http://cstl.semo.edu/parette/homepage/database.pdf>
- Parette, P. (1999). Transition planning with families across cultures. *Career Development for Exceptional Individuals, 22*, 213–231.
- Parette, P., & McMahan, G. A. (2002). Team sensitivity to family goals for and expectations of assistive technology. *Teaching Exceptional Children, 35*(1), 56–61.
- Reed, P., & Bowser, G. (1998, November). *Education Tech Points: A framework for assistive technology planning and systems change in schools*. Paper presented at the CSUN Conference on Technology and Persons with Disabilities, Los Angeles, CA.
- Roseberry-McKibbin, C. (2002). *Multicultural students with special language needs* (2nd ed.). Ocean-side, CA: Academic Communication Associates.
- Soto, G., Huer, M. B., & Taylor, O. (1997). Multi-cultural issues. In L. L. Lloyd, D. H. Fuller, & H. H. Arvidson (Eds.), *Augmentative and alternative communication* (pp. 406–413). Boston: Allyn and Bacon.
- Southworth, H. (1999). *Nonverbal communication in a cross-cultural context*. Retrieved February 3, 2003, from <http://www.gsb.columbia.edu/cis/training/acrostuff/tooHOT.research.pdf>
- Stewart, S., Bond, M., Deeds, O., & Chung, S. (1999). Intergenerational patterns of values and autonomy expectations in cultures of relatedness and separateness. *Journal of Cross-Cultural Psychology, 30*, 575–593.
- Terrell, S. L., Battle, D. E., & Grantham, R. B. (1998). African American cultures. In D. E. Battle (Ed.), *Communication disorders in multicultural populations* (2nd ed., pp. 31–71). Boston: Butterworth-Heinemann.
- To, D. T. (1993). *Cultural perceptions of Vietnamese immigrants in three models of service delivery*. Unpublished doctoral dissertation, University of California, Berkeley.
- Triandis, H., Brislin, R., & Hui, C. (1988). Cross-cultural training across the individualism collectivism divide. *International Journal of Intercultural Relations, 12*, 269–289.
- Uba, L. (1994). *Asian Americans: Personality patterns, identity, and mental health*. New York: Guilford Press.
- Williams, W. B., Stemach, G., Wolfe, S., & Stanger, C. (1995). *Lifespace access profile: Assistive technology assessment and planning for individuals with severe or multiple disabilities* (Rev. ed.). Irvine, CA: Lifespace Access Assistive Technology Systems.
- Willis, W. (1992). Families with African American roots. In E. W. Lynch & M. J. Hanson (Eds.), *Developing cross-cultural competence. A guide for working with children and their families* (pp. 121–150). Baltimore: Brookes.
- Wisconsin Assistive Technology Initiative. (1998). *Assessing students' needs for assistive technology: A resource manual for school district teams*. Amherst, WI: Author.
- Zabala, J. (1998). *Ready, SETT, Go! Online workshop*. Retrieved January 7, 2003 at <http://www2.edc.org/NCIP/Workshops/sett3/index.html>