

**Web-Enhanced Pre-Service Training  
for Foster, Adoptive, and Kinship Parents**

Lee White & Richard J. Delaney, Ph.D.

Phase II Final Progress Report  
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to  
Northwest Media, Inc.  
326 West 12<sup>th</sup> Avenue  
Eugene, OR 97401

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## A. General Scientific and Technological Aims

The aim of this project is to complete the development and evaluation of a web-enhanced pre-service training program for prospective foster caregivers. The program, developed by the Institute for Human Services (IHS) of Columbus, Ohio, is one of just a few standardized pre-service training curriculums for foster caregivers in current use nationally. The curriculum was co-authored by Betsy Keefer Smalley (project manager and editor), Dr. Denise Goodman, Dr. Judith Rycus, Dr. Ronald Hughes, Candy Barr, Sally Cooper, and Daniel Houston. These authors are experts in the fields of child welfare, foster care and adoption, culture and diversity, and sexual abuse. Numerous content experts and trainers contributed content or learning activities to the final curriculum.

Face-to-face contact between agencies and prospective resource parents is a critical part of pre-service training that allows staff to screen and forge relationships with the parents. However, a substantial part of the training involves instructional activities that focus on conveying knowledge and shaping attitudes essential to foster care. Being able to deliver training components with an online format offers several distinct advantages: First and foremost, online modules could serve as make-up classes for parents who miss a class. This cost-effective approach would allow parents to complete the entire training without agencies having to devote additional resources for a make-up class or having to require parents to restart or delay their training. The proposed modules would also give homebound, disabled adult family members the opportunity to view the curriculum. Segments of the online modules could be used as an added teaching tool within the classroom training or integrated as part of the classroom training. Finally, the online modules could serve as refresher or reference courses for in-service resource parents.

The use of interactive multimedia (IMM) formats means using Flash technology to deliver convenient, 24/7 instruction. In addition, the format provides an effective interactive audio-visual presentation that is an individualized, self-paced learning experience.

In the proposed program each of the 12 proposed online training modules would be a stand-alone instructional unit. In Phase I we developed a foundational module on Child Abuse and Neglect. The feasibility study provided evidence that the online delivery is more effective than the classroom delivery in conveying knowledge; it received higher user satisfaction ratings than the classroom training; and showed distinct and encouraging trends in producing greater increases in empathy for birth parents than the classroom training. In Phase II we will develop the remaining 11 training modules. The online modules will also be produced for CD to accommodate parents who do not have access to broadband internet service and agencies that wish to integrate segments of the modules into their face-to-face training.

Pre-service training covers a distinct range of topics that do not overlap with in-service training. This project represents a unique and essential set of courses for FosterParentCollege.com, Northwest Media's training venue for resource parents.

Phase II activity will include the following milestones:

- 1) Build instructional content for the modules. This will include refining training objectives; building a flow chart of the training sequences; writing treatments and scripts for the multimedia pieces, which will be reviewed by experts.
- 2) Produce storyboards and animatics of the content.
- 3) Produce audio and visual elements for the site content. This will include narrative instructional segments and interactive follow-up exercises.
- 4) Alpha test the modules with pre-service trainers from agencies around the nation, as well as with prospective foster caregivers, to refine the modules' content and functionality.
- 5) Write and pilot test knowledge measures for the instructional modules.
- 6) Produce the website material. This will include flow charting the training material to fit in with the FosterParentCollege.com (FPC) website, developing the look for the modules,

programming the pages and databases, and creating a captioning option for viewers with special needs.

- 7) Conduct an online evaluation study with a national sample of prospective foster parents for each of the instructional modules. The study will measure pre-post outcomes on content knowledge and, at posttest, user satisfaction and site usability.

## **B. Phase II Research Activities**

### Product Development

In Phase II, we developed ten online training modules using Flash technology. Originally, we proposed developing 12 modules, but ultimately we consolidated the proposed training to ten online units and added four in-person units. Our curriculum expert suggested that we merge the units on Permanency Issues for Children and Permanency Issues for Families into one session (renamed Foster Care to Adoption). This reduced the online modules to 11. In addition, we decided that the introductory class was best given in person, and it was integrated into a new “blended” curriculum of online and classroom training, described below.

In translating the standard IHS curriculum to an interactive Flash technology format, the material was organized into three categories: 1) an overview of a key concept; 2) applying and practicing the concept; and 3) supplemental, factual information. In each multimedia module, the general instructional flow begins with an expert explaining a key concept in a discussion format with the module’s host. Then viewers apply the concept via one of several interactive exercise formats, e.g., drag-and-drop activities, online journal entries, and audio or video scenarios followed by multiple-choice questions with instant feedback. Finally, printable handouts supply additional factual and educational material. We did not produce the online modules for CD as originally planned, as the interactive complexity of the courses was beyond the capacity of a functional CD. Similarly, we did not create a captioning option as planned, because with Flash technology, captioning wasn’t feasible; instead, we produced a printable viewer guide to the content for each of the online training modules.

#### Product Development Process: The Online Courses

The following steps were taken in producing and assembling the media elements for the online training modules:

- Reviewed goals and learning objectives and established production timeline.
- Wrote content scripts for all segments.
- Informational and narrative content were drafted, reviewed, and revised. A flowchart identified all multimedia elements.
- Identified needed talent, images, and graphics.
- Organized talent and resources for shooting and producing visuals and recording audio elements.
- Produced multimedia animatic version of all segments.
- Segments were reviewed by the project team and content experts, including social workers.
- Developed navigational structure and elements.
- Assembled all final components into the multimedia production.
- Sweetened sound.
- Authored a prototype version of the content with the navigational framework.

Materials produced for this project reflect diversity across genders, ages, and racial/ethnic groups. Foster parent and child situations depicted in the materials also include individuals with a variety of disabilities.

### Preliminary Product Reviews

Northwest Media received initial guidance and feedback for development of the online modules from project consultant Betsy Keefer Smalley, IHS curriculum expert and project manager of the original IHS curriculum development team. Based on the IHS curriculum model, we worked with Keefer Smalley and other experts to design each of the online, interactive training modules. Each module was reviewed by additional content experts in the field of foster and adoptive care.

In addition, for the first two courses, we recruited a group of pre-service trainers from a national sample of agencies that provide pre-service training to review the materials at the next stage of development. These trainers reviewed the scripted scratch track, including the audio track and accompanying animatic (drawings for the media), for the content and interactive activities. The reviews took place as web meeting discussion groups. After viewing the material, trainers were asked for their feedback on the program's content and functionality, as well as the relevance and accuracy of the information. The project team reviewed all feedback and made adjustments to the final content and format of the content. Trainers were paid \$200 for their participation in a review.

After the initial reviews, we streamlined this process for the remaining courses, replacing the reviews by pre-service trainers with reviews by senior field experts. We found that these experts were more skilled than the trainers at reviewing scripts and giving us useful feedback prior to production.

### Technical Specifications

In order to achieve the level of interactive education and data tracking needed, we used a collection of open source technologies on both the server and client side, based on their reliability, robustness, and cost.

To host the web pages, we built and maintained a server running Redhat Linux 9 as our operating system and Apache Web Server v. 2.0 as our web server. We stored data, retrieved data, and managed the user session on the server with a server side scripting language called Sun Microsystems Java 1.4. As a data repository we used PostgreSQL database v. 8.0. Our servers are hosted in an industry-leading data center. We continuously update our server software to ensure their network security. The servers are connected to the internet via minimum T1 connection, which provides us with sufficient bandwidth to handle multiple concurrent users watching educational movies, viewing course material, or completing online questionnaires.

Clients can use web browsers such as Internet Explorer 6.0+, Mozilla Firefox 1.5+, Netscape 8.0+, or later versions to view the materials. These browsers support Javascript 1.3, which is a client side scripting language used for menuing functionality and state management.

### Development of the Content for a Blended Online and Classroom Pre-Service Training Curriculum

Upon completion of the sixth online module, we recognized that the quality of the product we were building surpassed our original design and that the project's entire set of online trainings could serve states and agencies as a complementary pre-service training if blended with an in-person component. This would reduce the time required for foster parents' attendance at classroom training, yet it could deliver high-quality, standardized training no matter what the size of the agency. It would also be cost-effective for states and agencies at a time of severe budget cuts, while providing training that would meet or exceed federal requirements.

With these things in mind, the decision was made to involve IHS (Betsy Keefer Smalley) in writing a manual with the content for four in-person sessions to accompany the online courses, and the entire curriculum is what we hereinafter refer to as the Blended Pre-Service Training

Curriculum. The Curriculum thus includes a sequence of ten self-paced online courses interspersed with four classroom meetings. Each of the online courses includes a variety of video presentations, story narratives, interactive exercises, and printable supplements. The online courses cover the following sequence of topics: 1) The Child Welfare Team, 2) Child Abuse and Neglect, 3) Parent-Child Attachment, 4) Understanding Behavior in Foster Children, 5) Child Development, 6) Cultural Issues in Parenting, 7) Working Together with Primary Families, 8) Caring for Children Who Have Been Sexually Abused, 9) Reducing Family Stress, and 10) Foster Care to Adoption.

The 198-page manual for the Blended Pre-Service Curriculum provides trainers with the content for four 3-hour in-person meetings. (Syllabi and knowledge review questionnaires for all of the online courses are included in an Appendix at the end of the manual.) Competencies, learning objectives, detailed content, and training instructions are included for each of the in-person meetings. The classroom meetings include time for the presentation of state- and agency-specific information, as well as time for questions from the trainees. Each meeting also allows time for interaction, both among trainees and between the trainers and trainees. Ideally, the meetings are co-trained by an experienced social worker from the licensing agency and an experienced foster caregiver. The social worker presents information related to agency rules, policies, and procedures. The foster parent shares experiences and insights from years of caring for foster children.

The curriculum provides a great deal of flexibility to both agencies and prospective caregivers. The training can be provided in a short period of time, if desired, or at a more relaxed pace. The four in-person meetings may be offered within a 4-week period, with three or four corresponding online courses completed during each 1-week interval. Or, the in-person meetings may be offered at 2-week intervals over an 8-week period, with the online sessions completed during a 2-week hiatus between each meeting. The meeting curriculum is designed for classes of 20 to 25 participants. However, the curriculum may be used effectively with groups ranging from 6 to 36.

### Project Evaluations and Outcomes

The current project entailed three stages of study. In the first stage, we conducted pilot studies to examine the face validity of knowledge questionnaires developed for the online instructional modules and used in the subsequent studies. In the second stage, we tested the effectiveness of four individual online training modules in two studies. In the third stage, with the approval of NICHD for a change in our study design, we tested the effectiveness of the complete Blended Pre-Service Training Curriculum and compared it to a standard curriculum that uses a traditional classroom approach. As part of the approved change in study design, we also added a 3-month follow-up study. Studies in each stage are described and reported below.

#### Stage 1: Pilot Studies of Knowledge Questionnaires

About 40 multiple-choice items were drafted for the knowledge questionnaire for each online module as production of the module was completed. The questionnaires were administered online to a series of samples of about 25 prospective resource parents to determine acceptable levels of difficulty and clarity of wording.

Prospective participants responded to an ad placed on Google announcing the study. Parents completed the questionnaires online. They were also asked to provide comments about items that seemed problematic.

An item was considered too easy and dropped if 80 percent or more of respondents selected the correct response. Subjects' comments were used to assess and revise items that subjects indicated were difficult to understand. Based on the results of the pilot studies, the pool

of items in the knowledge questionnaires was finalized for use in the studies of the four units in the next stage—Parent-Child Attachment, The Child Welfare Team, Child Development, and Caring for Children Who Have Been Sexually Abused.

The combined samples used in the pilot testing stage included 151 participants: 134 females and 17 males; racially, there were 107 Whites, 20 Blacks or African Americans, 5 American Indians/Alaska Natives, 2 Asians, 8 with more than one racial background, and 9 of unknown racial background; ethnically, 7 identified themselves as Hispanic or Latino.

### Stage 2: Testing Individual Online Training Modules

We conducted two studies to evaluate the effectiveness of individual online training modules. Each study examined two modules, and treatment group results for both modules were compared to results for a no-treatment control group. Each study assessed whether modules were effective in improving prospective caregivers' knowledge and awareness. We also asked treatment group participants to rate their satisfaction with the online training.

Participants for Both Studies. Prospective foster parents for both studies were recruited via online search queries with Google that used the key word "foster care." Targeted searches produced a pop-up saying "Want to Foster Parent? Receive \$40 in a federally funded research study on foster care." Clicking on that ad took people to a detailed announcement about the study. Those who were interested filled out a brief screening questionnaire to determine their eligibility for the study. To qualify, parents: could not have previously fostered or adopted a child; had to be considering becoming a foster parent; had to have access to high-speed internet; and had to have a valid email address. Eligible parents were sent an email with login information (username and password) and a link to the study, which took them to the consent form. Participation in the study was voluntary; those who completed it received \$40.

Procedure for Both Studies. To control for extraneous sources of variability as well as threats to internal validity, participants who consented were automatically and randomly assigned to one of three groups: a treatment group for one of the two online training modules being evaluated or a no-treatment control group. Those in the two treatment groups viewed the training module assigned to that group and completed a set of questionnaires for that module before and after viewing the module. Those in the control group completed the same questionnaires for both modules within a similar timeframe as the treatment groups, but did not view either module.

The pretest battery for each module included a Background Information Questionnaire, Knowledge Questionnaire, and Awareness Questionnaire. The posttest battery included the Knowledge and Awareness questionnaires, and a User Satisfaction Questionnaire.

#### Measures for Both Studies.

*Background Information:* A brief questionnaire was developed to assess participants' demographic information, whether they had ever completed similar training, whether they had biological children, and why they wanted to become a foster parent.

*Knowledge Questionnaires:* As described above (Stage 1: Pilot Studies of Knowledge Questionnaires), project staff developed, pilot tested, and refined a measure for each module consisting of multiple-choice items designed to assess knowledge of basic content covered in the module. Subjects were given a score for overall Knowledge of the module's subject matter at pre- and posttest by calculating the percentage of items they responded to correctly at each assessment.

*Awareness Questionnaires:* Project staff developed a measure for each module of 10 Likert scale items designed to assess parents' self-awareness of the developmental and behavioral issues covered in the module. Parents rated each statement on a scale of 1 (strongly disagree = low awareness) to 5 (strongly agree = high awareness). Subjects were given a score for overall Awareness by averaging their responses to the Likert-scale items for each module at pretest and posttest.

*User Satisfaction:* A questionnaire developed in-house was used to assess participants' feedback on the appeal, clarity, and value of the course content; the appeal of the interactive formats, and the difficulty level of the interactive formats. These items used 5-point rating scales. Satisfaction scores were computed based on the average scores of six relevant items.

*Usability:* In addition, treatment group participants were asked a variety of questions about their behavior on the site, such as how often they watched segments, how much time they spent with the training, and whether they read the handouts.

Analyses for Both Studies. To answer research questions about the differences between treatment and control group on pre-post test scores, we fit Repeated Measure Analysis of Variance (RM ANOVA) models to the data. Specifically, for each module studied, separate ANOVA models were run for Knowledge score and Awareness score, respectively, with treatment/control groups as between-subject effect and time (i.e., pre and post) as within-subject effect. The interaction between group and time was used to test the hypotheses that the treatment group increased in Awareness and Knowledge more than the control group.

### Study #1: Parent-Child Attachment and The Child Welfare Team Modules

#### Samples

The Attachment sample included 96 participants—49 in the treatment group and 47 in the control group. The Child Welfare Team sample included 99 participants—52 in the treatment group and 47 in the control group (the same 47 who served as the control group for the Attachment sample). Of the total study sample of 148, 89% were female and 11% were male; racially, 66% were White, 14% were Black or African American, 11% were American Indian or Alaska Native, 1% were Native Hawaiian or Other Pacific Islander, 5% were more than one race, and 4% did not report their race; ethnically, 13% identified themselves as Hispanic or Latino.

#### Hypotheses

- Subjects receiving training in the Attachment module will increase in Attachment Knowledge and Attachment Awareness from pre to post significantly more than the control subjects.
- Subjects receiving training in The Child Welfare Team module will increase in CWT Knowledge and CWT Awareness from pre to post significantly more than the control subjects.
- Subjects receiving training will show high satisfaction for both modules.

#### Results

Test-retest reliability was moderate ( $r=.550$ ) for Knowledge scores on the CWT module, and high ( $r=.846$ ) for scores on the Attachment module. The results of Cronbach's alpha indicated that the Awareness scales had high internal consistency on both modules (Attachment: pre ( $\alpha=0.88$ ) and post ( $\alpha=0.89$ ), and CWT: pre ( $\alpha=0.91$ ) and post ( $\alpha=0.93$ ).

Histograms were created for mean scores of Knowledge and Awareness for each group (treatment and control), and for each module: Attachment and CWT. The histograms suggested that the mean scores are approximately normally distributed, which satisfied assumptions of the ANOVA models.

For the Attachment module, results from the Repeated Measures ANOVAs showed that the participants in the Attachment group increased their Knowledge score and Awareness score significantly more than the control group. The interactions between group and time were significant for Knowledge:  $F(1,94)=75.11$ ,  $p<0.001$  and Awareness:  $F(1,94)=12.85$ ,  $p=0.001$ .

Similarly, for the CWT module, results from the Repeated Measures ANOVAs showed that the participants in the CWT group increased their Knowledge score significantly more than the control group (time\*group  $F(1,97)=63.0$ ,  $p<0.001$ ). The CWT group also increased their Awareness score significantly more than the control group (time\*group  $F(1,97)=30.9$ ,  $p<0.001$ ).

Satisfaction ratings for both modules were very high. Subjects found the material in the

training helpful, liked the interactive multimedia presentation formats, wanted to see more of the same, and found the formats manageable in terms of complexity.

### Study #2: Child Development and Children Who Have Been Sexually Abused Modules

#### Samples

The Child Development sample included 102 participants—51 in the treatment group and 51 in the control group. The Sexual Abuse sample also included 101 participants—50 in the treatment group and 51 in the control group (the same 51 who served as the control group for the Child Development sample). Of the total sample of 152, 92% were female and 8% were male; racially, 63% were White, 30% were Black or African American, 1% were American Indian or Alaska Native, 2% were more than one race, and 4% did not report their race; ethnically, 10% identified themselves as Hispanic or Latino.

#### Hypotheses

- Subjects receiving training in the Child Development module will increase in Child Development Knowledge and Child Development Awareness from pre to post significantly more than the control subjects.
- Subjects receiving training in the Children Who Have Been Sexually Abused module will increase in Sexual Abuse Knowledge and Sexual Abuse Awareness from pre to post significantly more than the control subjects.
- Subjects receiving training will show high satisfaction for both modules.

#### Results

Test-retest reliability was good ( $r=.72$ ) for the Knowledge scores on the Child Development module, and high ( $r=.81$ ) for Knowledge scores on the Children Who Have Been Sexually Abused module. The results of Cronbach's alpha indicated that the Awareness scales had high internal consistency on both modules (Child Development: pre ( $\alpha=0.93$ ) and post ( $\alpha=0.90$ ), and Sexual Abuse: pre ( $\alpha=0.84$ ) and post ( $\alpha=0.86$ )).

Histograms of residuals suggest that the residuals of pre- and posttest scores for knowledge and awareness of child development were approximately normal, satisfying the normality assumption of ANOVA.

RM ANOVA results suggested that the treatment group increased their Knowledge and Awareness significantly more than the control group, given that the interactions between group and time for both knowledge ( $F(1,100)=28.28, p<.001$ ) and awareness ( $F(1,100)=5.22, p=.024$ ) were statistically significant. The Treatment group increased in Knowledge scores from 0.46 ( $SE=0.02$ ) in the pretest to 0.59 ( $SE=0.02$ ) in the posttest, whereas the Control group remained similar from pre ( $M=0.46 SE=0.02$ ) to post ( $M=0.47 SE=0.02$ ).

Regarding Awareness scores, the Treatment group increased from 4.07 ( $SE=0.09$ ) in the pretest to 4.29( $SE=0.06$ ) in the posttest, however, the Control group experienced a slight drop from pre ( $M=4.10 SE=0.09$ ) to post ( $M=4.05 SE=0.06$ ).

### Stage 3: Overall Study of Blended vs. Classroom-only Training (revised study design as approved by NICHD)

The previous two studies revealed that all four of the modules studied showed significantly greater increases in knowledge and awareness when compared to a no-treatment control group; and that user satisfaction was high. Rather than continuing to conduct pre-post studies of individual modules, we requested and received approval from NICHD to revise the study design and compare the effectiveness of the complete Blended Pre-Service Training Curriculum developed in Phase II with Foundations, a traditional classroom-only approach, before and after the training and again at a 3-month follow-up. The Blended training program has been previously described. Foundations was developed by Portland State University Child Welfare

Partnership and the State of Oregon DHS. It is the standard pre-service training program currently used in Oregon and is in popular use nationwide. The program covers the following sequence of topics: 1) The Importance of Birth Families, 2) Child Development and the Impact of Abuse, 3) Sexual Abuse, 4) Behavior Management, 5) Valuing the Child's Heritage, 6) Working with The Child's Family, and 7) Next Steps for Foster Parents, Relative Caregivers, and Prospective Adoptive Parents. Although the organization of content for the two training programs is different, their content substantially overlaps.

#### Sample

Our final sample for the pre-post study included 111 prospective resource (foster, adoptive, and kinship) parents in Oregon; 57 participated in the blended online program (treatment group) and 54 in the classroom-only program (control group). Subjects were dropped if they didn't complete the pretest, didn't continue with the training, or continued with training without completing the pretest. Of those originally recruited, 15 (21%) dropped out of the blended program and 69 (57%) dropped out of the classroom-only program. Sixty-two percent of the sample was female. Racially, 85% were White, 5% were Black or African American, 2% were American Indian or Alaska Native, 7% were more than one race, and 2% did not report race. In terms of ethnicity, 6% identified themselves as Hispanic or Latino.

Participation in the study was voluntary; participants received a \$40 gift card upon completing the study.

Eighty-four participants in the pre-post study also completed a 3-month follow-up assessment; 64% were female; racially, 85% were White, 5% were Black or African American, 1% were American Indian or Alaska Native, another 1% did not report race, and 8% were more than one race; ethnically, 4% identified themselves as Hispanic or Latino. Participants in the follow-up study received an additional \$20 gift card.

#### Hypotheses

We hypothesized there would be significantly greater improvements for the blended group on parenting knowledge and awareness, as well as satisfaction ratings. We also expected a greater number of parents to complete the blended program than the classroom-only program. Finally, we expected that improvements on parenting knowledge and awareness would be sustained at higher levels for the blended group than for the classroom-only group after 3 months.

#### Procedure

The study took place in Multnomah, Washington, and Clackamas County, Oregon with the cooperation of the Department of Human Services and Boys and Girls Aid of Oregon. The study was announced at the first meeting of the Foundations training program to prospective resource parents. Parents were required to take the training because a kinship, foster, or adopted child was placed or was about to be placed in their home. Those who were interested completed a contact information and consent form, and were then randomly assigned to the treatment (blended) or comparison (classroom-only) condition; couples were assigned to the same group.

For the treatment group, classroom meetings took place before and after the first cluster of four online courses (The Child Welfare Team, Child Abuse and Neglect, Parent-Child Attachment, and Understanding Behavior in Foster Children), then after the second cluster of three online courses (Child Development, Cultural Issues in Parenting, and Working Together with Primary Families), and again after the final cluster of three online courses (Caring for Children Who Have Been Sexually Abused, Reducing Family Stress, and Foster Care to Adoption). The first in-person class was an introduction and orientation meeting. In the three other classroom meetings parents reviewed previous online content, did group exercises, and received segments of instruction required by the State of Oregon.

Participants in the Foundations classroom-only group met for eight classes. Following the initial introduction and orientation meeting, classes covered seven instructional modules. Parents had up to 6 months to complete the full complement of classes. Participants in the

Blended training group had to log in and complete viewing the next cluster of assigned online units before the next live class meeting. Progress was monitored and participants were reminded to complete when necessary. If a class meeting was missed, parents were given the opportunity to make it up. All classes met at a training center and were 3 hours long.

All subjects were sent the link and login information for the study via email. Subjects in the classroom-only training only had access to the intervention assessments online, while those in the blended training also had access to the Blended Curriculum's ten online training courses. Groups were formed in waves of 7-20 participants, depending on the size and rate of recruitment at the first class, until the number of subjects for the study was met. Classroom instruction was conducted by four trainers experienced in delivering the Foundations program and two training specialists who were trained to deliver the Blended Pre-Service Training Curriculum.

All participants completed the pretest assessment battery at the first class meeting and the posttest assessment battery after the final class meeting. Participants were contacted by email to participate in the 3-month follow-up trial.

### Measures

The pretest battery included questionnaires on background information, parent knowledge and parent awareness. The posttest battery included the questionnaires on knowledge and awareness, as well as questionnaires on user satisfaction with the training approaches and usability for the online training. Assessment at the 3-month follow-up trial included the questionnaires on knowledge and awareness, as well as additional items about participants' placement experiences.

All study measures were self-report measures presented online.

*Background Information:* An 8-item background information questionnaire was developed to obtain participants' basic demographics, including gender, age, ethnic and racial background, education, and income, as well as information about their previous experience with foster parent training and the type of caregiving they were planning to do.

*Knowledge Questionnaire:* Development of the knowledge questionnaire for the overall study progressed in stages. As indicated above, questionnaires for each of the ten online courses were first drafted and pilot tested. Based on the pilot test results, items that were judged too easy or difficult were dropped. The shortened questionnaires were next sent to the content developers of the online courses, who were asked to narrow the items further, to the 8 items they considered most important and representative for each unit. We then sent the 80 items to the study's head trainer of the Blended Curriculum (who was also an experienced Foundations program trainer) and asked her to identify items that were relevant to the content in the Foundations program. A sufficient number of items overlapped so that we could further reduce the number to 5 items per unit, resulting in a 50-item questionnaire that was used to assess both treatment and control group subjects' overall knowledge of the pre-service training content. An additive knowledge scale was created, on which scores used for analysis were the percentage of correct responses at pretest, posttest, and follow-up.

*Awareness Questionnaire:* A 20-item rating scale was developed to assess subjects' overall awareness of parenting issues covered in the training programs. Respondents were asked to rate how much they agreed (1=*strongly disagree* to 5=*strongly agree*) with statements of parenting awareness; e.g., "I know how to recognize developmental difficulties in a child." Similar to the procedure for developing the overall knowledge questionnaire, we first drafted a set of items (8-10) per online training module. We then sent the pool of items to the developers of the Blended Curriculum's online courses to narrow the selection to 3 items per course. We then sent the 30 items to the study's head trainer of the Blended program (an experienced Foundations trainer) and asked her to identify items that were also relevant to the Foundations program. A sufficient number of items overlapped so that we could further reduce the number to 2 items per unit, for a total of 20 items. Scores used for analysis were the mean ratings for all

items.

*User Satisfaction with Overall Training:* A core set of 12 items that were germane to both training programs was developed to assess participant satisfaction with their training. Nine of the items asked respondents to rate statements about the program from 1 (*not at all favorable*) to 5 (*very favorable*). Scores used for analysis were the mean ratings for these nine items. An additional question probed whether participants felt like quitting the training, when, and what helped them complete training. Another two questions asked for open-ended feedback about the training programs.

*Usability Satisfaction with Online Training:* Eight items were developed to assess satisfaction with features specific to online training; five used rating scales similar to the other items, and another three were yes/no questions about perceived advantages or disadvantages to online training.

*Placement Experiences:* Two items were developed for the follow-up trial to assess parents' perceptions of the helpfulness and effectiveness of their training for those parents who had a child placed in their home. Parents rated each item on a scale of 1 (*not helpful at all*) to 10 (*extremely helpful*); they were also asked to provide explanatory comments about their responses.

*Participant Dropout:* The number of participants who dropped from the pre-post study was tracked. Dropouts consisted of subjects who took the pretest but did not complete the training or posttest.

### Results

To assess the reliability/consistency of the scales used to measure knowledge, awareness and satisfaction, we computed Cronbach's alpha for each. In general, values greater than 0.6 are considered "acceptable" and those > 0.9 are "excellent." All scales had alpha > 0.6 and were therefore useful for further analysis. We also reran the analysis, dropping each item from the scale to see if any questions would have a large influence on the statistic, but leaving out any one item had little effect on the statistics.

### Analyses for Pretest to Posttest Assessment

To test for a difference in the effect of the treatment versus control groups on awareness and knowledge, we fit a repeated measures analysis of variance (RM ANOVA) for each variable. A significant interaction of group (treatment or control) and time (pre- and post-assessment) indicates a difference in the effect of the classes on the participants. After fitting each model, we used plots of residuals and fitted values to ensure there were no violations of the assumptions of the test. We then followed up each RM ANOVA with post-hoc *t*-tests to describe the pre-post differences for each group.

*Awareness.* At baseline, the treatment group had greater awareness than the control group— $t(109)=3.72$ ,  $p<0.001$ —but in the posttest there was no significant difference between the groups— $t(109)=1.91$ ,  $p=0.058$ . Both the treatment and control groups had significant increases in awareness in the posttest compared to the pretest— $t(109)=7.45$ ,  $p<0.001$  and  $t(109)=10.59$ ,  $p<0.001$ , respectively. The data showed a significant interaction of group and time— $F(1,109)=6.02$ ,  $p=0.016$ —indicating the groups responded differently to their courses. The mean increase in awareness was larger for the control group (27.0%) than the treatment group (16.2%).

*Knowledge.* At baseline, there was no significant difference in knowledge between the treatment and control groups— $t(109)=1.00$ ,  $p=0.296$ —nor was there a significant difference between the groups in the posttest— $t(109)=1.05$ ,  $p=0.299$ . However, both the treatment and control groups had significant increases in knowledge from pretest to posttest— $t(109)=7.92$ ,  $p<0.001$  and  $t(109)=4.08$ ,  $p<0.001$ , respectively. The significant interaction of group and time— $F(1,109)=5.694$ ,  $p=0.019$ —indicated the groups responded differently to their courses. The mean increase in knowledge was larger for the treatment group (18.2%) than for the control group (9.7%).

Dropout Rate. The percentage of participants who dropped out of the training before posttest was measured in each group. Significantly more participants in the Foundations group dropped out prior to the posttest (56%), compared to only 21% in the Blended group ( $X^2(1)=22.54, p<.001$ ).

User Satisfaction. Satisfaction was high in both the treatment and control groups— $M=4.37, SD=.41$  and  $M=4.33, SD=.46$ , respectively—with no significant difference between them— $t(109)=.501, p=0.618$ .

*Analysis of Anecdotal Data.* Content analysis was used to examine participants' comments. In all, we received 380 comments from study participants. A principal reader composed a broad list of emergent themes from the raw data that were then honed and organized into three domains: Online vs. Classroom Training, Suggestions for Online Training, Other Feedback. Comments indicated strong support for both types of training. Since there are still lingering doubts about the user friendliness of serious online training programs, this bolstered confidence that prospective caregivers were not alienated or distracted by the approach. Parents, mostly in the classroom training, did feel there was too much talking and story-telling that was not relevant. Of those in the classroom training, several felt discouraged enough about the delivery being off-message that they were considering not going ahead with certification, especially prospective kinship parents. Interestingly, comments did not reveal a preference for the ease of scheduling offered through the blended training. Those in the online training also did not want the online content repeated in their classroom sessions. Finally, comments also indicated a strong desire for more opportunities for interactions and support with other prospective parents during the training.

Usability. Questions that applied specifically to the online training also indicated high satisfaction— $M=4.23, SD=.42$ .

#### Analyses for 3-month Follow-up Assessment

Awareness. When follow-up data were added to the RM ANOVA for Awareness, post-hoc tests (with Bonferroni corrections) showed that neither group decreased significantly from posttest (Blended  $M=4.41, SD=.36$ ; Foundations  $M=4.28, SD=.34$ ) to follow-up (Blended  $M=4.27, SD=.50, p=.107$ ; Foundations  $M=4.18, SD=.30, p=.523$ ).

Knowledge. Knowledge also held from posttest (Blended  $M=.62, SD=.12$ ; Foundations  $M=.60, SD=.10$ ) to follow-up (Blended  $M=.60, SD=.12, p=.941$ ; Foundations  $M=.59, SD=.09, p>.999$ ).

Placement Experiences. On how helpful they found the pre-service training to be, the Blended group gave an average rating of 7.71 ( $SD=1.5$ ) on a scale of 1 to 10 (where 1=*not at all helpful* and 10=*extremely helpful*). The Foundations group gave an average rating of 7.00 ( $SD=3.5$ ), which was not significantly different from the Blended group ( $t(8.78)=.59, p=.569$ ). When asked if they think the way they're parenting the children placed with them is more effective than it would have been without the training, both groups were likely to say "yes," with 88% in the Blended group and 78% in the Foundations group (non-significant difference  $X^2(1)=.648, p=.421$ ).

#### Summary of Outcomes for the Overall Evaluation (Pre-to-Post and Follow-up)

In Phase II we successfully completed the development and production of a Blended Pre-Service Training Curriculum for prospective foster, adoptive, and kinship parents, combining ten online pre-service training courses with four in-person, classroom meetings. The online approach garnered very high levels of satisfaction and was shown to be comparable in quality to a highly regarded training program that uses a traditional classroom approach. There were no notable technical issues for the online training, systemically or for individual users. The blended training substantially reduced the length of time parents needed to complete their training, which may help explain the dramatic difference in retention rates that favored the blended training. Parents in the treatment group, both in the studies of the individual modules and in the overall

study of the entire Blended curriculum, showed consistent and significant gains from pre- to post-intervention in knowledge and awareness, as well as high satisfaction ratings. However, in the overall study, parents in the blended group showed greater improvements than the classroom group only in knowledge; both groups improved in awareness from pre to-post intervention. This finding may point to an important advantage for the blended format. Subjective perceptions of awareness about parenting that are not accompanied by corresponding gains in knowledge could lead to a false sense of confidence about preparedness, which could inflate the naiveté of prospective caregivers. The blended training showed no comparative deficit on any outcome measure to the classroom-only training. Parents in the overall study found both approaches very helpful and effective. Finally, parents in both study groups maintained gains in knowledge and awareness 3 months following the intervention period, which also supports the depth of learning for online training.

Although current thinking still harbors some apprehension about using online training with a broad range of parents for the purpose of social skills training, our findings pointed to its effectiveness and popularity with parents. While some in-person training remains a must for prospective caregivers, the Blended curriculum's effectiveness and the enthusiasm for it by parents and trainers, combined with the savings in money and time it offers to agencies and parents, strongly argues for its ongoing utility and appeal.