

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

Richard Delaney

Phase I Final Report
A Small Business Innovation Research Grant
from the National Institute of Child Health and Human Development
Grant #1 R43 HD054032-01A1

Project Period: 07/05/2007 – 12/31/2008

This report is an unpublished manuscript submitted in partial fulfillment
of requirements for closing out the above project.
January 5, 2009

A. General Scientific and Technological Aims

Pre-service training for foster caregivers is a realm of activity that is distinct and different from *in-service* training. Pre-service training builds a foundation of knowledge and expectations about parenting foster children and working within the foster care system. In-service training continues to inform parents about working with the care system and other relevant institutions, such as schools, the courts, etc., and helps caregivers develop more in-depth skills on understanding and managing serious child behavior problems.

Face-to-face contact between agency and prospective parents is also a critical part of pre-service training, which allows staff to screen prospective parents and to forge relationships with parents. However, a substantial part of the training involves individualized activities that concentrate on conveying knowledge and shaping attitudes and expectations essential to effective foster parenting. Delivering this part of the training online has several distinct advantages. Parents can take this portion of the training in the convenience of their home and study at their own pace. The use of interactive multimedia (IMM) formats for instruction provides a powerful audio-visual and self-regulating environment for learning. Parents and staff could then focus more on building support and relationships during their face-to-face interactions. This would give staff more meaningful opportunities to observe and screen parents during their time together and would also streamline costs for both parents and agencies.

The technological aim of the current project, therefore, is to transfer a selected, but significant, portion of pre-service training to home-based online activities. For this purpose, we will adapt components from a leading pre-service curriculum developed by the Institute for Human Services (IHS) for delivery on the Web. In the proposed Web-enhanced program individual training modules will entail both individualized online activities and live class meetings. In Phase I, we developed one of the 12 training modules from the traditional IHS curriculum.

The scientific aim of the project is to evaluate the feasibility of using an online delivery in comparison to the traditional class delivery format. In Phase I we tested this with IHS's module on Child Abuse and Neglect, a foundational part of the instruction that imparts relevant knowledge to parents about child maltreatment and also promotes empathy towards birth parents. The study examined whether parents who received the online delivery would increase their level of knowledge and empathy to the same extent or greater than parents who received the traditional classroom delivery.

B. Phase I Research Activities

Product Development

To begin the process, the content development team – Dr. Richard Delaney (Principal Investigator, co-writer) and Lee White (Producer, co-writer) – outlined the specific points to be presented and identified exemplifying points of the IHS curriculum. A script was developed in draft form that included interactive exercises and supplemental material. The script was reviewed by IHS lead consultant, Betsy Keefer, and an outside expert Karen Jorgensen, M.A., executive director of the National Foster Parent Association. The revised script underwent a series of revisions to prepare it for the production process.

The raw media materials were gathered and developed by the media team, which included: Lee White, producer and co-writer; Keith Qiao Jin, programmer; William Haldane, director and editor; Kris Hansen, graphic designer; and Anthony McCarthy, sound engineer.

Talent was hired for both images and voices. Permission to use copyright protected images was gathered. All new images and video recordings were made and assembled. Flash

technology was used to construct interactive exercises and audio and visual elements. Handouts were written and finalized.

Instructional Content

In Phase I we wrote, produced, and evaluated a foundational course from the IHS program on *Child Abuse and Neglect*. The course consisted of three integrated instructional sections. Below is a brief description of the course content that describes the topics, interactive exercises, and printable handouts covered in each chapter.

Part I: Understanding Child Maltreatment

Chapter 1: Introduction

- Provides an overview for prospective resource parents of child maltreatment: its scope, the importance of understanding the impact of child maltreatment, the three basic forms of child abuse and neglect, and narrowing the focus of the course from abuse to physical abuse and neglect.
- Provides an overview of the course and a warning about the graphic nature of some of the material.
- Introduces Betsy Keefer, L.S.W., the program host and a national specialist on parent training.

Chapter 2: Definitions of Abuse and Neglect

- Provides descriptions that explain and differentiate the three forms of child maltreatment: physical abuse, neglect, sexual abuse according to federal and state law.
- Provide descriptive detail on what constitutes physical abuse, neglect, and sexual abuse and exploitation, as well as the sources of how these kinds of maltreatment are reported.
- Examines other inclusion criteria for child maltreatment, in particular, exposing children to drug environments.
- Discusses the co-occurrence of different forms of child maltreatment.
- Introduces the purpose and composition of the foster care team as a support for the foster child and family.
- Handouts
Child Maltreatment: Contains information on classic definitions of physical abuse.

Chapter 3: Maltreating Parents and Families

- Discusses the complexities of identifying circumstances and characteristics of families where maltreatment occurs.
- Exercise #1: Helps viewers understand the characteristics of maltreating parents or families. Viewers hear a sequence of statements about the characteristics of maltreating families and respond by choosing true, false, or maybe. For each statement, when viewers click an answer they immediately receive clarifying in-depth feedback on the correct answer.
- Handout: Factors In Abuse and Neglect provides a review of the information about common risk factors for child maltreatment.

Chapter 4: The Continuum of Parenting

- Debunks myths that link personality types of parents and the likelihood that they will maltreat a child.
- Clarifies the sometimes subtle distinctions between certain parenting practices and maltreatment, the co-occurrence of different forms of maltreatment, and the ebb and flow of patterns of maltreatment.
- Exercise #2: Helps viewers understand the appropriateness of certain parent

expectations and decisions. Viewers hear a series of statements and for each one choose whether it is appropriate or not. For each statement, when viewers click an answer they immediately receive clarifying feedback on the correct answer.

- Exercise #3: Helps viewers distinguish whether parenting actions are normal or abnormal. Viewers hear a series of statements and for each one choose whether it is normal or not. For each statement, when viewers click an answer they immediately receive clarifying feedback on the correct answer.

Part II: Creating Empathy

- Explores the relationship between birth parents and the foster parents and, in particular, the attitudes and beliefs among prospective caregivers that unfairly judge and condemn maltreating birth parents, which can adversely affect the child's well-being. Also underscores the psychological and practical importance of building bridges between foster and birth parents; in other words, of developing empathy.
- Discusses factors in the development of empathy from the perspective of a foster parent. Develops an empathetic understanding of maltreating families by examining their intergenerational history.
- Presents the first part of a story of three successive generations of a maltreating family's history. An adult child recalls her parents' abuse.
- Exercise #4: Helps viewers identify parents' maltreating attitudes and behaviors. Viewers hear a series of statements and for each one choose whether it is true or false. For each statement, when viewers click an answer they immediately receive clarifying feedback on the correct answer.
- Presents the second part of a story of three successive generations of a maltreating family's history. The adult child of the second generation recalls her parents' abuse.
- Exercise #5: Helps viewers identify parents' maltreating attitudes and behaviors. Viewers hear a series of statements and for each one choose whether it is true or false. For each statement, when viewers click an answer they immediately receive clarifying feedback on the correct answer.
- Presents the third part of a story of three successive generations of a maltreating family's history. The adult child of the third generation recalls her parents' abuse.
- Exercise #6: Helps viewers identify parents' maltreating attitudes and behaviors. Viewers hear a series of statements and for each one choose whether it is true or false. For each statement, when viewers click an answer they immediately receive clarifying feedback on the correct answer.
- Exercise #7: Helps viewers take the perspective of foster parents caring for children from a maltreating family. Viewers have to respond to a foster care team's questions about the birth mother. Viewers choose one of three opinions they may have about the birth mother and immediately receive helpful feedback for each answer.
- Examines how, in addition to circumstances in previous generations, present circumstances pose risks to parents maltreating a child.
- Exercise #8: Helps viewers take the perspective of a birth parent in making decisions in very challenging circumstances. Viewers are asked to choose from among four opinions on how they would respond and immediately receive helpful feedback for each answer.
- Handout: Parents' Attitudes and Behavior contains information viewers can use to help them identify parents' maltreating attitudes and behaviors.

Part III: Recognition and Reporting

- Presents sequences of visual slides depicting and describing child abuse to help

prospective parents recognize the physical signs of abuse.

- Discusses other criteria for recognizing or considering the occurrence of child abuse.
- Presents general procedures for reporting suspected child maltreatment and the importance of understanding variations in state law. Clarifies criteria and responsibilities for mandatory reporting, and in particular for foster parents.
- Examines risks that heighten the risk of child abuse while in foster care and prevention strategies for reducing those risks.
- Exercise #8: Helps viewers assess, from a parent's point of view, how acceptable specific problem child behaviors are. Viewers hear a sequence of parenting scenarios and respond by clicking on their perceived level of acceptance of the behavior, from totally unacceptable to totally acceptable.
- Handout: Child Maltreatment contains information about detecting signs of abuse.

Process for Developing the Media Materials

The media for the course were integrated within an audio-visual 'skin,' which included the following elements:

- A viewing frame for presenting the visual components of the instructional content – photographs and bulleted text overlays from the sound track.
- A viewing frame that displayed the current narrator (either the program host or Betsy Keefer-Smalley) in real-time audio and video.
- A navigational 'remote control' panel that identified the course chapters and topics, and that highlighted the current place in the course. Users could also select different topics or move back to different chapters. Clickable options let users convert the presentation to text-only, review FAQs, and send comments ahead.
- The viewing frame contained identifying markers for the site and the course title, as well as a 'home' button that sent users to their account page which listed the printable handouts for the course.

Pilot Studies of Knowledge Measure for Phase I

Six prospective foster parents on the wait-list for the standard IHS pre-service training in Ohio participated in a pilot study of the Child Abuse & Neglect Knowledge Questionnaire. Participants were balanced by gender and all were White. A training coordinator from the Central Ohio Regional Training Center recruited participants from a list of parents registered to take the pre-service training. After a brief introduction to the study activity and consenting to participate, each participant completed the knowledge questionnaire.

The original version of the questionnaire consisted of 29 multiple-choice and true-false questions on content covering all segments of the module developed in Phase I on Child Abuse and Neglect. Of the 29 items, 9 were answered correctly by all 6 participants, and 6 additional items were answered correctly by 5 of the 6 participants. We decided to modify these 15 questions to increase their level of difficulty and then conduct another pilot test of the knowledge measure.

The second pilot study was conducted at Birth to Three in Eugene, Oregon. Of the eight participants, 6 were female; 7 were non-Hispanic Whites, and 1 was a non-Hispanic with a multiracial background. After a brief introduction to the study activity and consenting to participate, each participant completed the revised 29-item knowledge questionnaire. Based on the results, 9 items were dropped, either because they were judged to be too easy or because they (or their response choices) were judged to be ambiguous. Thus, the final questionnaire had a total of 20 questions.

Technical Development

All audio was recorded in-house, in studio sessions according to previously approved scripts. The sound engineer cleaned, sweetened, filtered, and edited audio tracks on Cool Edit Pro 1.2a. Sound foley added to the soundtrack.

The Flash animator used final audio files and graphic elements to create a first rough-cut according to the script, using Macromedia Flash MX software. The entire team then reviewed this version and made appropriate revisions until reaching final approval.

The bulk of the production process was conducted using the Flash environment for quick turnaround for Web and CD production and revision. Once approved, all image files were compressed for bandwidth economy and authored for Web. The graphical elements – navigator, buttons, etc. – were developed and finalized for Web usage.

Project Evaluation

The purpose of the study in Phase I was to evaluate the effectiveness of an online training module, adapted from the Institute for Human Services pre-service training program. The course, on *Child Abuse and Neglect*, is one of 12 modules designed to help prepare prospective parents for becoming foster caregivers. Specifically, we wanted to assess whether the online training format was as effective as the classroom format in improving participants' knowledge and their empathy for birth parents, and also whether participants were as satisfied with both formats.

Participants

Prospective foster care parents were recruited from the Utah Foster Care Foundation and the Milwaukee Child Welfare Partnership for Professional Development, Helen Bader School of Social Welfare, University of Wisconsin at Milwaukee (MCWPPD). The Foundation is a non-profit organization that provides the pre-service training classes required to obtain a foster care license in the State of Utah, as well as ongoing in-service training. Currently, approximately 1,300 resource families provide care for the 2,600 children in Utah's foster care system. For the current study, we recruited prospective resource parents from offices in three regions: Salt Lake Valley, Orem, and the Northern Region. The MCWPPD is part of the Wisconsin Child Welfare Training System. The system's mission is to develop and deliver high quality, competency-based training to supervisors, staff, and caregiving families. The system's approach throughout Wisconsin is family-centered, child-focused, strength-based, and culturally responsive.

Our final sample included 92 participants, 41 in the treatment group and 51 in the comparison group. Of the 92 participants, 60% were female. Racially, the sample was about 89% White, 7% Black or African American, and 3% biracial. In terms of ethnicity, 10% of the sample identified themselves as Hispanic or Latino. Participants had a mean sample age of 38.6 years. With reference to education, 13% reported having completed high school or a GED; 36% some college; 12% an AA degree; 27% a bachelor's degree; and 12% a master's degree. About 7% of the sample reported a family annual income of under \$30,000; about 24% reported income of \$30,000 - \$49,999; about 23% reported income of \$50,000 - \$69,999; and 46% reported income of \$70,000 or higher. Thirteen of the study participants (about 14%) had previously participated in foster caregiver training, and 78 (almost 86%) had not. (See Appendix B, Tables 1 and 2.)

Participation in the study was voluntary. Participants received \$35 for completing their participation in the study.

Procedure

Information about the study and the opportunity to participate in it were announced by the Training Coordinator at each of the participating sites to groups of prospective parents attending the introductory meeting of the IHS Pre-Service Training Program. Those interested in participating were asked to read and sign the consent form. After consenting to participate, all participants completed a set of pre-test questionnaires. Participants also provided their email addresses.

To control for extraneous sources of variability as well as threats to internal validity, we randomly assigned those who agreed to participate to either a treatment condition or a comparison condition. Participants in the treatment group viewed the *Child Abuse and Neglect* module online either at home, or a site of their choice that was equipped for high-speed Internet access. The module was the third class in a series of 12 classes. All participants had taken the previous two classes, and participants in the comparison group attended the third class meeting, as usual.

The Training Coordinator forwarded the email addresses of participants in the treatment group to the Web site administrator who registered them on FosterParentCollege.com by assigning them unique usernames and passwords. These participants were then sent an email with instructions for logging in, which included the URL of the site, their login information (user name and password), and contact information for Northwest Media for technical support. Participants could access the course through any computer with a high-speed Internet connection and sound.

All participants completed the pre-test assessment battery at the first class meeting and the post-test assessment battery before the beginning of the fourth class. The pre-test battery included the following questionnaires (see descriptions below): *Background Information*, *Knowledge of Child Abuse and Neglect*, and *Empathy & Perspective Questionnaire*. The post-test battery included the *Knowledge* and *Empathy* questionnaires, as well as a *User Satisfaction Questionnaire*.

There was one group in Wisconsin and waves of participant groups at the Utah sites: three groups in Orem and two groups in Salt Lake Valley and the Northern Region. A wave consisted of a regularly scheduled training at a site. The complete training program lasted about three months. When one training was completed another one was started.

Measures

(All study measures were paper-and-pencil, self-report measures, and copies are included in Appendix A.)

1) *Background Information*

A 7-item background information questionnaire was developed by project staff and used to obtain information regarding participants' gender, age, ethnic and racial background, education, income, and previous foster caregiver training.

2) *Knowledge of Child Abuse and Neglect (KCAN)*

The 20-item knowledge scale, developed in-house, was based on the content in module 3 of the IHS training curriculum. True-false and multiple-choice questions covered the dynamics of child maltreatment, the underlying reasons primary parents may abuse or neglect a child, and the concept of empathy.

3) *Empathy & Perspective Questionnaire*

Project staff developed this 14-item adaptation of the *Empathic Concern (EC)* and *Perspective Taking (PT)* subscales of the *Interpersonal Reactivity Index (IRI)* (Davis, 1980). The overall *IRI* is a self-report measure composed of four, 7-item subscales tapping different aspects or components of empathy. It is the most widely used measure of empathy (Pulos, Elison, & Lennon, 2004). Respondents indicate how well each statement in the *IRI* describes them on a

5-point Likert-type scale ranging from 1 (does not describe me well) to 5 (describes me very well).

The EC subscale taps the “tendency to experience other oriented feelings of warmth, compassion, and concern,” and includes items such as, “I often have tender, concerned feelings for people less fortunate than me” (Cliffordson, 2002, p. 51). In her research, Cliffordson (2001, 2002) has found that empathy is hierarchically organized, with a general dimension (composed of one item from each of the *IRI* subscales) at the apex, and that this general dimension is conceptually identical to the EC subscale. Higher scores on the subscale indicate higher levels of empathic concern. Standardized alpha coefficients for the EC subscale by gender are .68 for males and .73 for females (Davis, 1980).

In adapting the EC subscale, we retained the original subscale’s format and number of items, changing only the language of the statements to better fit our study’s sample of prospective foster parents and the relevant birth parents. For example, the statement cited above was adapted to read: “I would often have tender, concerned feelings for them [the birth parents].”

The PT subscale of the *IRI* taps a more cognitive, rather than affective, dimension of empathy and is also germane to our study. Higher scores on the subscale indicate higher levels of cognitively taking the perspective of another. As with the EC, in adapting the PT subscale we retained the original subscale’s format and number of items, changing only the language of the statements to better fit our study’s sample of prospective foster parents and the relevant birth parents.

At posttest, we also asked all participants to complete the original versions of the *IRI*’s EC and PT subscales so that we could evaluate our adaptations relative to the criterion measure. Raw scores were used to help establish the concurrent, criterion-related validity of the study’s overall *Empathy & Perspective Questionnaire*.

4) *User Satisfaction*

Two versions of this questionnaire, developed in-house, elicited feedback about the course from study participants. A 14-item version was developed for treatment group participants, and a 5-item version was developed for comparison group participants. The two versions had 4 items in common for comparison purposes; the treatment group version had additional items related to the Web site and online training. Both versions also included open-ended items giving participants a chance to make comments or suggestions about the training – and, in the case of the treatment group version, about using the Web site.

Hypotheses

The study addressed two types of information: knowledge and usability. With respect to the effectiveness of the intervention on user knowledge about child abuse and neglect, we hypothesized that there would be significant differences between the groups’ scores on the K-CAN at posttest (controlling for pretest differences). We also anticipated significant group differences in levels of empathy toward birth parents and improvements in perspective taking, as measured by the EC and PT subscales. A .05 alpha level was used to determine significance in all statistical tests.

We also expected strong satisfaction ratings for the intervention from a measure of usability. We set a criterion level for satisfaction with the course at 2.5 (on a scale of 1-5, where 1 is the best and 5 is the worst), because we felt it represented an achievable standard.

Results

The results are summarized below in three sections: preliminary analyses, MANCOVA/ANCOVA model selection, and final outcome analyses.

Preliminary Analyses. Of the 119 initial participants, 92 individuals (41 intervention and 51 comparison) had complete data for the study, and were thus included in all further analyses. Because the amount of attrition was greater than 5%, we examined group differences between completers and non-completers to see if there was any systematic explanation for study drop-out. Importantly, drop-out did not appear to be differential; that is to say that equal numbers of non-completers were from the treatment and comparison groups $\chi^2(1, N = 119) = 2.83, p = .09$. With regard to the background variables, we did find one significant difference between those who completed the study versus those who did not. Specifically, participants who did complete the study were significantly more likely to have higher levels of education, $\chi^2(5, N = 115) = 13.23, p = .02$.

Proceeding with the 92 participants who had complete data, we examined differences between our two experimental groups on all demographic information from the Background Information questionnaire. We conducted independent samples *t*-tests and/or chi-square analyses on all demographic information from the Background Information questionnaire to detect any systematic differences between the two groups. Using an alpha level of .05 we found no significant difference between these groups. (See Appendix B, Tables 1 and 2 for frequencies and means on the background information items.)

Content validity for the KCAN, and the EC and PC subscales was estimated using the IRI subscales as the criterion measure. Although the KCAN was not found to significantly correlate with the IRI, both the empathy and perspective scales did correlate significantly with both the IRI subscales (Empathy subscale, $r = .28, r = .42$; Perspective Taking subscale $r = .32, r = .31$). (See Appendix B, Table 4 for a description of all correlations with sample size information.)

Content validity for the KCAN, and the EC and PC subscales was estimated using the IRI subscales as the criterion measure. Although the KCAN was not found to significantly correlate with the IRI, both the empathy and perspective scales did correlate strongly and significantly with both the IRI subscales (Concurrent coefficients: Empathy subscale, $r = .73, r = .59$; Perspective Taking subscale $r = .57, r = .77$). See Appendix B, Table 4 for a description of all correlations with sample size information.

Assumptions of MANCOVA/ANOVA. This study used a design with pretests and random assignment to groups. Because this design includes a pretest, it allows for the use of more powerful statistical analyses through the use of covariates (Campbell & Stanley, 1963; Shadish, Cook, & Campbell, 2002). In this case, the KCAN measure appeared to be distinct from the measures of empathy and perspective-taking. Therefore, we elected to address our research questions according to domain, with a one-way, between subjects analysis of covariance (ANCOVA) to assess differences on the Knowledge measure and a one-way, between subjects multivariate analysis of covariance (MANCOVA) to assess differences on the empathy and perspective taking subscales. In this design, and for each analysis, group served as the independent variable with two levels: intervention and comparison. For the ANCOVA model, quantitative pretest scores on the Knowledge measure was used as a covariate, and posttest scores on this measure served as the dependent variable. In the MANCOVA model, quantitative pretest scores on the Empathy and Perspective Taking subscales were standardized to form a composite covariate, and posttest scores on these same measures were used as dependent variables.

Given our choice of experimental design, many of the theoretical assumptions of M/ANCOVA were met, primarily that we demonstrated an adequate control of sources of extraneous variability. However, before proceeding, we also needed to evaluate the statistical assumptions of this procedure: (a) univariate/ multivariate normality (b) reliable covariates, (c) equality of variance-covariance matrices (homoscedasticity), (d) linear relations between all

quantitative measures, (e) homogeneous regression of all covariates and dependent variables, and (f) independence of independent and dependent measures (no multicollinearity or singularity).

Evaluation of ANCOVA assumptions – KCAN.

Using visual analysis of histograms, we found the distributions in pre- and posttest scores on the knowledge measure to approximate normality. No outliers were found, nor were there any ceiling or floor effects noted. We also used visual analysis of scatterplots to examine linearity of relations between and among the pre- and posttest scores. The scatterplot indicated a moderate linear relation, and the pretest score (covariate) was modestly correlated with the posttest score, $r = .32$, $p = .00$.

We assessed the reliability of our covariate using equal-length Spearman Brown coefficients, and found weak evidence for internal consistency ($\alpha = .09$) based on a sample of 82 participants with complete data at the item level. Stability of the KCAN was assessed by examining the correlation between forms for pre- and posttest for the comparison group. Results, again, were modest ($r = .46$, $N = 51$). The reason for such low reliability estimates may be, in part, due to our relatively small sample for the preliminary analyses. It also may be due to the small number of items used to assess the construct, and that not all items were multiple choice.

Salvia & Ysseldyke (2004) recommend reliability coefficients at or above .60 for use in making group research decisions, however the ANCOVA procedure is robust to violations of the reliability of the covariate provided that the groups are equivalent at pretest. Because the former assumption was met ($F(1, 90) = 0.71$, $p = .40$), we began the ANCOVA model selection procedure.

Selecting Appropriate Model – KCAN. Because we conducted an analysis using a covariate, we considered multiple models and accepted the most parsimonious. The first model, unequal slopes and unequal intercepts, was abandoned, because the differences in slopes across the groups were neither significant ($F(1, 88) = 0.36$, $p = .55$) nor important ($\eta^2 = .00$).

We found the slopes in the ANCOVA model to be significantly different from zero ($t = 4.78$, $p = .00$) for the KCAN measure. We therefore chose to analyze our data using ANCOVA model 2, assuming equal slopes and unequal intercepts.

Outcome Analyses – KCAN.

All output for the KCAN is based on an equal slopes ANCOVA model. The main effect of the intervention on Knowledge of Child Abuse and Neglect was both significant, $F(1, 89) = 22.85$, $p < .00$, and meaningful, $\eta^2 = .20$ and indicated that scores were, on the average, higher for parents who had participated in the intervention (see Appendix B, Table 3 for group means on the KCAN at posttest, and Table 5 for a summary of the ANCOVA results). Twenty percent of the variability in posttest scores was due to the effect of the intervention.

Evaluation of MANCOVA assumptions – EC and PT.

Both measures demonstrated slight negative skew at both pre- and posttest. This finding could be due to participants not wishing to appear biased or non-empathic against birth parents. We also used visual analysis of scatterplots to examine linearity of relations between and among the dependent variables and covariates. All scatterplots indicated moderate linear relations, and the covariate was highly related to both dependent measures ($r = .71$ with EC and $r = .64$ with PT).

We assessed the stability of our covariate by examining the correlations between forms for

pre- and posttest for the comparison condition. Results were modest ($r = .70$ for EC and $r = .65$ for PT), yet indicate suitability of these measures for use as a covariate; particularly when combined and when groups are equal on the measure at pretest ($F(1, 90) = 3.25, p = .08; \eta^2 = .04$).

Selecting Appropriate Model-EC and PT. Again, due to the covariate in this analyses, we considered multiple models before arriving at the most parsimonious. Neither the first or second models were selected, as there were found to be no differences in slope across groups ($F(2, 84) = 1.35, p = .27; \eta^2 = .03$), nor were slopes found to be significantly different from zero when regressed on either the EC scale ($t = 1.10, p = .28$) or the PT scale ($t = 1.20, p = .23$). A model without a covariate was therefore most appropriate to use in this case.

Outcome Analyses-EC and PT.

All output for the subscales of Empathic Concern and Perspective Taking is based on an unadjusted MANOVA model (see Appendix B, Table 5). The main effect of the intervention on either the EC or PT scales was non-significant, $F(2, 86) = 2.12, p = .13$. Five percent of the variability, or differences, between the online intervention and the comparison condition were attributable to the intervention. However, it is worth noting that, when examining unadjusted means on these two measures, we saw trends for higher scores on both scales for the online intervention group (see Appendix B, Table 4).

Post-hoc analyses, Interpersonal Reactivity Index (IRI) subscales

Although originally intended for use only as a criterion measure, a post-hoc examination of the data revealed significant differences between the intervention and comparison conditions at posttest (see Appendix B, Tables 3 and 5 for details). Because this measure was not administered at pretest, full experimental control is not established. However, the groups were equivalent on the EC and PT subscales of the newly developed measures (see Table 3), and these measures correlated strongly and positively with the IRI subscales (see Appendix B, Table 4).

User Satisfaction

As part of the post-test assessment, participants in the study's treatment group completed a 14-item user satisfaction questionnaire. The first six items elicited feedback on the course, and the next five items elicited feedback on the Web site. All of these items asked respondents to indicate how much they agreed or disagreed with statements about the course or Web site on a scale ranging from 1 (strongly agree – high satisfaction) to 5 (strongly disagree – low satisfaction). We constructed an overall feedback scale composed of these 11 items. In addition, we constructed a 4-item feedback scale composed of the 4 items that also appeared in the comparison group satisfaction questionnaire. The complete results are reported in Appendix B, Tables 6a and 6b for the treatment and comparison groups, respectively. Overall, treatment group feedback items indicated high satisfaction with the Web-based course. Participants thought the interactive exercises were especially helpful, and they found the site easy to use. Of the five Web site feedback items, they rated the helpfulness of the supplemental printouts the lowest. On the 4-item feedback scale, the treatment group mean was 2.13, compared to the comparison group mean of 2.36, indicating greater satisfaction with the course among treatment group subjects.

A single item on the treatment group satisfaction questionnaire asked how much time participants had spent with the training. Most of them (64.7%) reported spending about 2 hours on it.

Finally, both versions of the satisfaction questionnaire contained an open-ended question, giving study participants an opportunity to write any comments or suggestions they wished to

about the project, and the treatment group version contained an open-ended question asking what difficulties participants had in using the Web site. The central concern among comparison group participants dealt with perceptions that there wasn't enough time for trainers to cover all of the intended material, and that they may have missed hearing some information. In the treatment group, concerns involved having to wait for material to download, some confusion about navigating the site, and a sense that they may be missing something by not being in the classroom.

Discussion

The development effort in Phase I produced an attractive and comprehensive multimedia training course for prospective foster parents on *Child Abuse and Neglect*, a foundational module in the Institute for Human Services pre-service training program. Producing the media for the content, exercises, and handouts involved an extensive process of input and review among project team members. All anticipated production milestones were successfully achieved in Phase I. We produced a complete formalized curriculum that was published on FosterParentCollege.com, in both online and CD versions. We designed, programmed, performance-tested, and launched all online activities for the program on our FosterParentCollege.com site. The content and look of the course were fully consistent with the quality of programs already available on FosterParentCollege.com. The proposed program represents the first online version of a standardized pre-service training program used nationwide. Consistent with the high quality standard of other programs on FosterParentCollege.com, the program included an array of visual montage, interactive exercises, and printable handouts to deliver state-of-the-art information to parents on resource parenting. For our study, we received exquisite coordination from four sites, three in Utah and one in Milwaukee. The vast majority of parents who were invited to participate did so. There was little indication, anecdotally, that access to hi-speed Internet was an obstacle for this group of parents.

Findings in the Phase I feasibility study were very encouraging. Results showed that the online interactive multimedia presentation was indeed more effective than the classroom training in improving parents' knowledge. This was especially impressive since the educational content was exactly the same for both conditions and the trainers in the classroom condition were highly seasoned presenters. Because the online version offers the added advantages over regular classroom instruction of being able to boost trainee retention, reach homebound trainees, and be incorporated into traditional classroom presentations, we would have been pleased to find similar improvements in the two conditions. The fact that parents showed greater improvement with the online version truly underscores the capability of parents to more flexibly regulate and process the instructional content using this format. The lack of reliability with the instrument was disappointing. We previously piloted many knowledge instruments using the same development process with moderate to high reliability outcomes. To address this, we plan on using a larger focus group (n=25) in Phase II and more carefully vetting parents on the difficulty level and clarity of items. We also plan to increase the number of items on each questionnaire to 30, and to include only multiple-choice items (no true/false items).

Parents also reported higher satisfaction with the online presentation than the classroom presentation. This provided solid evidence of the attractiveness of the Web as a teaching tool as well as the deep reach and familiarity of the Web with this segment of the population. The result was especially pleasing since, intuitively, the classroom format would appear to have a distinct advantage by having interpersonal contact and support.

The study did not show significant improvement in either the empathy or perspective-taking scales. However, both groups showed a similar increase in these scales, and the treatment

group's scores were higher than the comparison group's for both scales. Also, as discovered in a post-hoc analysis of the IRI data, the intervention condition scored significantly higher than the comparison condition on the subscales of this measure at posttest. This finding must be interpreted with caution, due to the lack of administering the IRI at pretest, but it does suggest a favorable impact that would likely continue to increase over the entirety of the program, perhaps significantly so for the multimedia intervention.

We are uncertain why those in the treatment group who did not complete the study had lower levels of education. The information was fairly intensive and some may have lost patience with the added burden of answering questionnaires.

In summary, we produced a polished training course from the IHS pre-service training program on child abuse and neglect for prospective resource parents. The program was replete with interactive multimedia instruction, case scenarios, exercises, and printable handouts. Parents using the online version learned more and found it more satisfying than the classroom format. Both formats produced equal but non-significant improvements in empathy and perspective taking.

Table 1
Sample Demographics - Part 1

Item	Comparison Group		Intervention Group		Total Sample	
	%	<i>N</i>	%	<i>n</i>	%	<i>N</i>
Completion Status						
Completed	83.6	51	70.7	41	77.3	92
Did not complete	16.4	10	29.3	17	22.7	27
Previous Training Participation						
Yes	14.0	7	14.6	6	14.3	13
No	86.0	43	85.4	35	85.7	78
Gender						
Female	60.8	31	58.5	24	59.8	55
Male	39.2	20	41.5	17	40.2	37
Ethnicity						
Hispanic or Latino	10.4	5	10.0	4	10.2	9
Not Hispanic or Latino	89.6	43	90.0	36	89.8	79
Unknown or not reported						4
Race						
White	91.1	41	87.2	34	89.3	75
Black or African American	6.7	3	7.7	3	7.1	6
Biracial	2.2	1	5.1	2	3.6	3
Unknown or not reported						8
Highest Level of School Completed						
High School/GED	13.7	7	12.2	5	13.0	12
Some college	33.3	17	39.0	16	35.9	33
Associate's Degree (AA)	13.7	7	9.8	4	12.0	11
BA/BS Degree	31.4	16	22.0	9	27.2	25
MA/MS Degree	7.8	4	17.1	7	12.0	11
Family Income						
< \$30,000	6.0	3	7.3	3	6.6	6
\$30,000 - \$49,900	28.0	14	19.6	8	12.2	22
\$50,000 – \$69,900	24.0	12	21.9	9	23.1	21
≥ \$70,000	42.0	21	51.2	21	46.2	42

Note. Group and total percentages are based on the valid number of cases for each variable. No significant difference was found between the two groups on any of these variables.

Table 2
Sample Demographics - Part 2

Item	Control Group		Intervention Group		Total Sample	
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>
Age (in years)	38.25	9.88	38.95	11.17	38.57	10.42

Note. Group and total means are based on the total number of participants with complete data (N = 92).

Table 3

Mean Performance on All Measures, by Group and Pre/Post Status

Group	KCAN ^a			EC ^b			PT ^c			IRI-1 ^d			IRI-2 ^e		
	M	SD	n	M	SD	N	M	SD	n	M	SD	N	M	SD	N
Intervention-Pre	.53	0.09	41	4.08	0.68	41	4.00	0.71	41	.	.	.	.	.	.
Intervention-Post	.73*	0.13	41	4.14	0.71	38	4.21	0.64	38	4.37 [†]	0.48	37	4.12*	0.59	37
Comparison-Pre	.55	0.11	51	3.76	0.62	51	3.87	0.60	51	.	.	.	.	.	.
Comparison-Post	.62	0.13	51	3.87	0.63	51	3.96	0.61	51	4.13	0.60	51	3.82	0.62	51

Note. KCAN = Knowledge Scale, Child Abuse and Neglect; EC = Empathic Concern Subscale of the adapted *Interpersonal Reactivity Index* (IRI) (Davis, 1980); PT = Perspective Taking Subscale of the adapted IRI; IRI-1 = Interpersonal Reactivity Index, EC Scale; IRI-2 = Interpersonal Reactivity Index, PT scale. Unless otherwise noted, unadjusted means are reported throughout the table. Both subscales of the IRI were administered at posttest only.

* Differences between groups (intervention and comparison) are significant at $p < .05$.

[†] Differences between groups (intervention and comparison) approached significance at $p \leq .05$.

^a Parent Knowledge scores are reported as the percentage of items correct out of 20 possible questions. Because results were analyzed using an Analysis of Covariance, adjusted means are reported.

^b Scores on the EC scale are reported as the average rating of seven items on a scale from 1 (*does not describe me at all*) to 5 (*describes me very well*) with higher scores indicating higher levels of empathic concern.

^c Scores on the PT scale are reported as the average rating of seven items on a scale from 1 (*does not describe me at all*) to 5 (*describes me very well*) with higher scores indicating higher levels of cognitively taking the perspective of another.

^d Scores on the IRI-1 scale are reported as the average rating of seven items on a scale from 1 (*does not describe me at all*) to 5 (*describes me very well*) with higher scores indicating higher levels of empathic concern.

^e Scores on the IRI-2 scale are reported as the average rating of seven items on a scale from 1 (*does not describe me at all*) to 5 (*describes me very well*) with higher scores indicating higher levels of cognitively taking the perspective of another.

Table 4

Correlations Between all Measures, at Pre- and Posttest, Including the IRI subscales

	KCAN2	EC1	EC2	PT1	PT2	IRI-1	IRI-2
KCAN1	.32** (92)	.05 (92)	.05 (92)	.08 (92)	.10 (89)	.02 (88)	.02 (88)
KCAN2		.15 (92)	.11 (89)	.11 (92)	.11 (89)	.06 (88)	.03 (88)
EC1			.74** (89)	.66** (92)	.61** (89)	.71** (88)	.59** (88)
EC2				.56** (89)	.71** (89)	.73** (88)	.59** (88)
PT1					.56** (89)	.49** (88)	.52** (88)
PT2						.57** (88)	.77** (88)
IRI-1							.60** (88)

Note. KCAN = Knowledge Scale, Child Abuse and Neglect; EC = Empathic Concern Subscale of the adapted *Interpersonal Reactivity Index* (IRI) (Davis, 1980); PT = Perspective Taking Subscale of the adapted IRI; IRI-1 = Interpersonal Reactivity Index, EC Scale; IRI-2 = Interpersonal Reactivity Index, PT scale. Both subscales of the IRI were administered at posttest only. Sample sizes are reported in parentheses.

* $p < .05$

** $p < .01$

Table 5

Results of Univariate and Multivariate Tests of Significance for Outcome Measures

Source	<i>df</i>	<i>F</i>	η^2	<i>p</i>
Group – KCAN ^a	1, 89	22.85*	.20	<.00
<i>MANCOVA Results</i>				
Multivariate (Group)b EC & PT	2, 86	2.12	.05	.13
Post-hoc, Univariate Results				
Group - IRI1	1, 86	3.98 [†]	.04	.05
Group - IRI2	1, 86	5.29*	.06	.02

Note. KCAN = Knowledge Scale, Child Abuse and Neglect; EC = Empathic Concern Subscale of the adapted *Interpersonal Reactivity Index* (IRI); PT = Perspective Taking Subscale of the adapted IRI; IRI1 = Empathic Concern Subscale of the original IRI; IRI2 = Perspective Taking Subscale of the original IRI. Both subscales of the IRI were only administered at posttest. Thus, results must be interpreted with caution.

^a ANCOVA Model 2 is used, assuming equal slopes and unequal intercepts.

^b MANCOVA Model 3 (Unadjusted MANCOVA) is used. Slopes were not significantly different from zero.

* $p < .05$.

[†] $p \leq .05$

Table 6a

Means and Standard Deviations for Course & Web Site Feedback Items and Scales – Treatment Group

For each statement, circle the number that shows how much you agree or disagree: 1 means strongly agree and 5 means strongly disagree.

	<i>M</i>	<i>SD</i>	<i>n</i>
Course Feedback Item:			
The course helped me understand what child abuse and neglect is.	1.78	1.25	37
The course helped me understand families that have maltreated their child.	2.16	1.19	37
The course helped me better understand the relationship between foster caregivers and birth parents.	2.16	1.24	37
I liked the narration and overall presentation of the material.	2.62	1.21	34
The stories of families were helpful.	2.00	1.26	34
I would recommend this course to other prospective foster caregivers.	2.41	1.36	37
Web Site Feedback Item:			
I would like to receive more foster caregiver training on the Web.	2.35	1.48	34
I thought the Web site was easy to use.	1.91	1.19	34
I liked the way the course was organized into different segments.	2.18	1.36	34
The interactive exercises were helpful.	1.85	1.31	34
I found the supplemental printouts helpful.	2.79	1.27	33
Feedback Scale (mean of 11 items above)	2.21	1.09	37
Treatment Group Feedback Scale (mean of items #1, 2, 3 and 6 above, for comparison with same 4-item Control Group Feedback Scale)	2.13	1.16	37

Table 6b

Means and Standard Deviations for Course Feedback Items and Scale – Comparison Group

For each statement, circle the number that shows how much you agree or disagree: 1 means strongly agree and 5 means strongly disagree.

	<i>M</i>	<i>SD</i>	<i>n</i>
Course Feedback Item:			
The course helped me understand what child abuse and neglect is.	2.33	1.66	51
The course helped me understand families that have maltreated their child.	2.49	1.48	51
The course helped me better understand the relationship between foster caregivers and birth parents.	2.35	1.49	51
I would recommend this course to other prospective foster caregivers.	2.26	1.76	50
Comparison Group Feedback Scale (mean of 4 items above, for comparison with same 4-item Treatment Group Feedback Scale)	2.36	1.52	51
