Promoting Family-Centered Teaching:
Can One Course Make a Difference?

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It is critical that families be included as partners in all aspects of the educational process inasmuch as parents and families provide the primary learning environment for children of all ages (Bronfenbrenner, 1979; Dunst, 1985; Finkelstein, 1980; Mahoney & Bella, 1998; Meisels & Shonkoff, 1990; National Parent Teacher Association, 1999; Reiss, 1997; Turnbull, Summers, & Brotherson, 1984). Researchers, practitioners, and policymakers have documented the importance of parent involvement in children's education (Christensen & Sheridan, 2001; Epstein, 2001; Epstein, 2002; Henderson & Berla, 1994; Hiatt-Michael, 2001; Olmstead & Rubin, 1982; Perlander, 2000; Scott Stein & Thorkidsen, 1999; Umansky & Hooper, 1998; U.S. Department of Education, 1994). This body of research underscores the positive effects of parental involvement in education and indicates that when parents participate in their child's education, the result is an increased gain in skills and/or attainment of developmental milestones in early years.

Teachers and other professionals who work with children generally desire to support families by providing suggestions, strategies, and other services to help them help their child (Bauer & Shea, 2003; Turnbull, Turnbull, Erwin, & Soodak, 2006; Umansky & Hooper, 1998); however,

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these professionals often report that they feel ill-equipped and unprepared to work with families, especially those whose children have special needs (Lynn, 1997). Both Tichenor (1998) and Turner (2000) found that the teachers they studied were unsure how to involve parents in meaningful ways. This disconnect between the desire to involve families and the skills to effectively do so is even more evident for preservice and beginning teachers (Morris & Taylor, 1997). Surveys by the National Center for Education Statistics (Choy & Chen, 1998) indicate that, though support from parents is seen as a critical link to engage students and ensure their success, only one-third of teachers "strongly agree" that "parents support them in their efforts to educate their children." Given this concern, preservice teacher education programs are in a position to support new teachers in development of practices leading to family-centered teaching.

Historically, preservice teacher education programs have not adequately prepared teachers in parent involvement or family-centered practices (Chavkin, 1991; Epstein, Sanders, & Clark, 1999; U.S. Department of Education, 1997). Although the U.S. Department of Education (1997) and other groups have encouraged the adoption of family-centered practices in education and despite evidence of the positive effects of family involvement, the evidence has been largely ignored. Because teachers do *not* routinely encourage family involvement, and parents do not always participate when they *are* encouraged to do so (U.S. Department of Education, 1997), the importance of preservice training to involve family members in children's education is paramount. Recognizing this gap in training and the concern that most beginning teachers do not naturally have the skills to effectively include families in day to day activities (Morris & Taylor, 1997), responsive colleges and universities have developed courses encouraging positive interactions with families as a part of their curriculum.

The Harvard Family Study Report (Shartrand, Weiss, Kreider, & Lopez, 1997) noted that 22 states include parent involvement education requirements in their credentialing standards. As a result of the standards of the National Council for the Accreditation of Teacher Education (NCATE), a significant number of states added parent involvement requirements in the late 1990s (Gray, 2001, cited in Hiatt-Michael, 2001). A recent study by the Harvard Family Research Project (Giallourakis, Pretti-Frontczak, & Cook, 2005) finds that most courses in family and community involvement are offered as part of early childhood education or special education programs in colleges of education.

Trvette, Dunst, Boyd, and Hamby (1995) described four family-oriented models that can typically be observed in educational programs. These models included: (a) *Professionally-Centered*, wherein child and family

needs are determined solely by professionals/educators; (b) *Family-Allied*, where families are enlisted to implement teacher chosen interventions; (c) *Family-Focused*, where professionals/educators assist the family in choosing options from those that professionals have determined to be optimal; and (d) *Family-Centered*, where teachers become instruments of families by reflecting what parents see as important and valued by their own families.

As a foundation for coursework in family involvement, the National Parent Teacher Association (NPTA, 1999), as well as some state departments of education, developed standards for parent involvement. The NPTA standards highlight the importance of two-way communication with families, parenting, the parental role in student learning, volunteering, school decision-making, and community collaboration. However, according to the NPTA website, to date only nineteen states have adopted similar statewide resolutions. Despite the fact that the NPTA standards for parental involvement may be seen as representative of a *family-focused* model, preservice teachers could be encouraged to embed these strategies within a *family-centered* perspective for optimal collaboration with families (Trivette, Dunst, Boyd, & Hamby, 1995).

Family involvement coursework should facilitate a change process for preservice teachers' preconceived ideas about the role of the teacher and the role of families. Literature supports the idea that teacher beliefs have strong implications for their personal praxis and pedagogy (Brickhouse, 1990; Clark & Peterson, 1986; Hashweh, 1996). In other words, teachers act and teach according to their beliefs. Nespor (1987) developed a belief systems model that examines the structure, use, and functions of teachers' beliefs. Nespor maintains that knowing is not necessarily believing, and that teachers' experiences can take knowledge and transform it into beliefs.

A complicating factor is the emotional aspect of beliefs that makes them basically non-dynamic, inflexible, and unchangeable (Shechtman, 1994). If beliefs do change, they do so through a "conversion or gestalt shift" rather than through rational argument (Nespor, 1986, p. 321). One way to facilitate this belief development is to help teachers become reflective and self-conscious as they are presented with data that validate or refute their beliefs (Olson & Singer, 1994). Hunzicker (2004) argues that "permanently changing teacher beliefs requires that information is presented repeatedly over time to the point that the person begins to feel disequilibrium between current beliefs and new information" (p. 45). A central premise of teacher education is presenting new information that challenges preservice teachers' beliefs.

Those involved in personnel preparation must be qualified to facilitate

authentic "transformative" experiences for students as recommended by Banks (1997; 1998). Involving students in activities and experiences that reshape preconceived notions of teaching and teachers is essential to initiate personal transformative moments for students. During teacher preparation and the novice years, teachers are most interested in "self" concerns (Karge, Sandlin, & Young, 1993). When working with children with disabilities and their families, over-reliance on the "self" may interfere with the development of important and essential skills teachers need to support families and facilitate child development.

As Cochran-Smith (2003) warned, teacher education programs that hammer pedagogy into students may be thwarting the development of a quality teacher by only emphasizing one aspect of the profession. The implication for teacher education programs is to develop robust programs that respect pedagogy, but facilitate the transformation of teacher candidates from a stereotypical view of themselves as a teacher into a reflective, respectful partner in the educational experiences of children.

Looking At Preservice Teachers' Attitudes Using Concept Maps

The current study uses concept mapping to describe changes in preservice teachers' attitudes and perspectives regarding working with families of students with and without special needs from the beginning to the end of one 16-week semester.

Constructivist theory asserts that growth in knowledge is a result of actively connecting new ideas with past understanding (Beyerbach & Smith, 1990) and reorganizing conceptual ideas to accommodate the new information and experience**.** Strategies designed to help teachers reflect upon their beliefs, such as concept mapping, can lead them to evaluate their work in classrooms and with families (Beyerbach & Smith, 1990). This study uses concept maps to examine preservice teachers' knowledge and beliefs regarding families prior to and following a sixteen-week course promoting family-centered teaching.

Concept maps are graphic organizers that visually represent ideas about a central topic and highlight the relationships between concepts and important details (Beyerbach & Smith, 1990). Concept maps have been used for over 30 years as a research tool in science education and have been adopted by thousands of teachers in many fields to evaluate instruction, curriculum design, learning and conceptual change (Markham & Mintzes, 1994). Other disciplines that have used concept mapping in their scientific research include nursing, accounting education, and special education teacher preparation (Correa, Hudson, & Hayes, 2004). Concept maps are a way to measure the changes in preservice teachers'

understanding of complex issues as they integrate them into their existing schema.

Recent literature focusing on preservice teacher education has shown that concept mapping is an effective and efficient tool for measuring how students gain mastery of a subject and reorganize knowledge as their conceptual understanding increases. Concept mapping provides a two-dimensional, visual depiction of the relationship among important ideas and concepts following classroom instruction (Correa, Hudson, & Hayes, 2004; Jones & Vesilind, 1996; Kinchin, 2000; Markham & Mintzes, 1994; Morine-Dershimer, 1993; Trent, Pernell, Mungai, & Chimedza, 1998). Maps are intended to show the comprehension, beliefs, reflections, and biases of the students and to represent connections made between related topics and subtopics, as well as the student's depth of understanding (Beyerbach & Smith, 1990; Kinchin, 2000). Concept mapping has been found to show both statistically significant changes from a quantitative perspective as well as meaningful qualitative growth when compared with other methods of evaluation such as observation, critique of a video tape, or Kelly repertory grid exercises (Correa, Hudson, & Hayes, 2004).

Method

This study was guided by the question of whether a one-semester (16 week) course would develop and enhance preservice teachers' attitudes towards collaborating with their students' families. The study was conducted over two consecutive semesters with two sets of preservice students. The first author of this article served as instructor for the course, "Serving Individuals with Disabilities and Their Families." The purpose of the course was to provide students with theory, general principles, procedures, and legal requirements for fostering collaborative partnerships among families, professionals, students and other stakeholders that lead to outcomes of individual and mutual empowerment by emphasizing the family-centered model. This course was required for the students' subsequent state licensure in special education. The content and activities during both semesters of the course were consistent, as were the text (Turnbull & Turnbull, 2001) and supplemental readings. The study was conducted retroactively with Institutional Review Board (IRB) approval based on a typical in-class activity.

This course was taught under the theoretical premise that the students should examine their own perceptions and beliefs regarding family. This premise supports constructivist theory, which recognizes that individuals construct their own realities and change perceptions based upon established beliefs and values. By reviewing their beliefs

about families within the context of the course, students were thought to be in a better position to accommodate new ideas that may extend their established conceptions. The instructor emphasized that her own beliefs about family originated in her family of origin, i.e., the family to which she was born, and were broadened as she had experiences with her friends' and associates' families, as she married and had a family of her own, and as she shared experiences with and studied about families in diverse circumstances.

The class was held weekly in a three-hour block. In addition to items traditionally taught in "families" courses, i.e., benefit of parental involvement, home-school communication techniques, and the role of family during Individual Education Program (IEP) or Individual Family Service Plan (IFSP) development as required by the Individuals with Disabilities Education Act (IDEA), the instructor incorporated several distinctive activities. These activities were designed to encourage students' reflections of their current beliefs and challenge personal transformations. Descriptions of these activities follow.

An in-class experience used to demonstrate family diversity was the "Crossing the Line" activity. The instructor placed a piece of tape down the middle of the classroom and asked students to stand on one or the other side of the "line" based upon a variety of family conditions including (a) raised in a rural setting; (b) family of origin parental configuration, i.e., two parent home or some other configuration; (c) only child or one with siblings; and (d) single or multiple languages spoken in the home. In every condition, there were students residing on both sides of the line. The instructor then emphasized that the same diversity of family characteristics existing within the class could be anticipated as they interact with the families of their future students.

Three class sessions addressed the issues of socioeconomic status and poverty; two major activities accompanied these topics. During the first, the students were asked to make a list of their individual income and expenses as college students. They then compared their economic situation with that of a single parent who, because of the lack of a high school diploma, is forced to work a minimum wage job. After examining issues that would complicate the situation for our hypothetical parent, e.g., lack of transportation that minimizes access to local resources, students wrote reflections comparing their own situations to that of the hypothetical family; specifically they were asked to examine how they as teachers might connect with this family. The second activity addressing socioeconomic issues was a game in which students were randomly assigned to social groups, provided tokens representative of resources based upon group assignment, and then attempted as indi-

viduals to better their situation as they traded their tokens with others. The overriding response from students based upon the results of the activity was that "the rich get richer while the poor get poorer." Class discussion and individual reflections addressed the difficulty of upward mobility and the premise that it is not just a matter of working harder; some individuals simply do not have the resources that allow them to improve their economic situation.

The collaborative process of teaming with families was also addressed during class activities and class discussions. Students were taught to expect that different opinions arise among team members. Class activities demonstrated the processes of consensus building, emphasizing that differing opinions can lead to rich discourse and positive solutions. Students' reflections on this activity demonstrated the importance of valuing the contributions of family members and trusting that caregivers want what is best for their children.

Two major projects were used to help students make connections between their own family and a family containing a child with a disability. Early in the semester the students conducted a "Family of Origin" interview with one of the caregivers from the family in which they were raised. This interview was designed to examine how their own educational perspectives were developed based upon their own and their caregivers' educational experiences. Toward the end of the semester the students completed a "Caregiver Conversation" with the parent of a child with a disability addressing those same issues. Students submitted papers making comparisons between the two families; their typical findings were that, while there is great similarity between the two families as all parents desire the best educational outcomes for their children, families containing a child with disabilities often encounter difficulties accessing adequate supports that would provide their children the ability to meet their educational potential.

Participants

All participants in the study (n = 49 students) were enrolled in one of two semester-long courses titled "Serving Individuals with Disabilities and Their Families." Twenty-four students were enrolled during the first semester and twenty-five in the following semester. Because the course is required for securing a special education teaching license, the majority of students identified themselves as special education majors or "dual" majors working toward both elementary and special education licensure, yet students with additional majors were also represented. Students at both undergraduate and graduate levels were represented in each section of the course; however, all students were new to the

teaching profession. Undergraduate students' (n=36) majors included special education (n=6), early childhood education (n=1), and dual elementary/special education (n=29). Graduate students (n=13) included 12 special education majors and one health/physical education major. The class consisted of 51% self-reported traditional age students (n=25, ages 20-24) and 43% non-traditional students (n=21, ages > 24) with ages ranging from 25 to 52 (mean=27). Six percent (n=3) of the students did not report age. Ninety percent (n=44) of the students were women and 10% (n=5) men. Students are advised to take "Serving Individuals with Disabilities and their Families" early in their teacher education programs as a first or second semester course. While students are advised to follow a prescribed program of study, some students step out of their program and take courses out of sequence; therefore it is possible that a small number of students took the course just prior to student teaching.

Data Collection

On the first day of each course the instructor provided students with instructions for completing a concept map. Using PowerPoint graphics, she explained the step-by-step construction of a concept map by providing a map outlining "Leisure Activities" (see Figure 1).
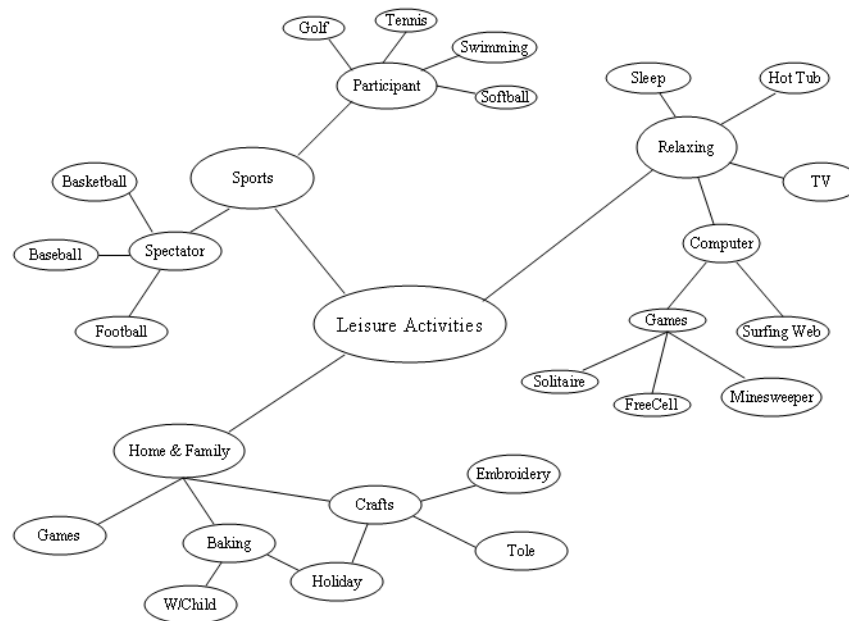

Figure 1. Demonstration Map

Students were then provided a blank map with the course title, "Serving Individuals with Disabilities and Their Families" as the central concept and were directed to complete maps based upon their own perceptions. Additionally, students were asked to provide a short written rationale explaining why specific components were included on their maps. There was no time limit and students were encouraged to include as many ideas as possible. During the class activity students wrote their names on the maps.

In the final class of the semester the map activity was replicated. The class revisited the "Leisure Activities" map as a refresher. Students were once again given a map page with the course title in the middle. Students were directed to complete the map again now that the class was complete. Again students worked without a time limit. This activity was completed blind, as the students were not able to review their original maps. Students again wrote their names on the map when completing the activity. When it was determined that the maps would be analyzed as part of a study, the maps were matched pre- and post-course for each student, the students' names were removed, and a coding number replaced the name. An example of a student's pre- and post-course maps can be found in Figures 2 and 3.
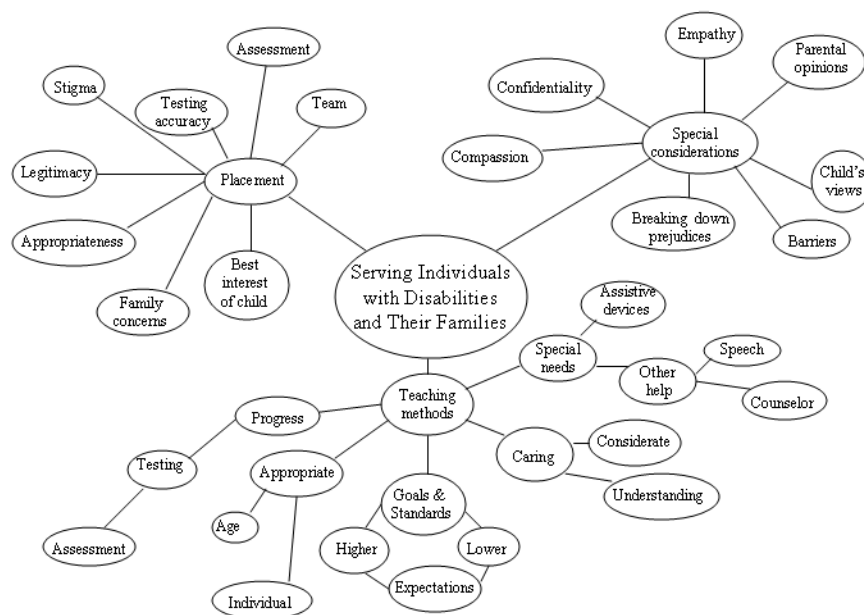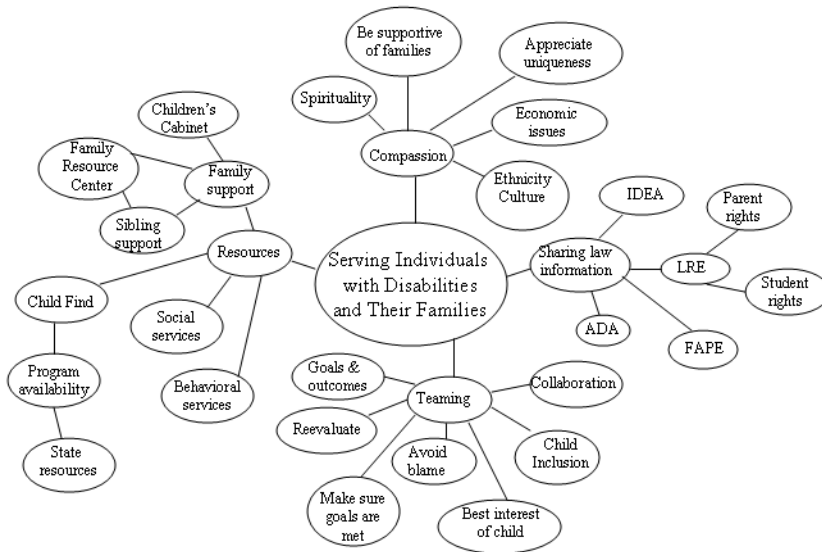

Figure 2. Pre-map

Figure 3. Post-map

Development of the Concept Map Analysis Form

To begin assessing contrasts in students' perceptions from the beginning of the course to the end of the course, data from the concept maps needed to be consolidated and categorized. A long and evolving process of identifying coding categories for the maps was undertaken. Given the unlimited possibilities students could write on their maps and the essential lack of structure of the assignment, the process proceeded in small increments and the coding categories continued to evolve throughout the coding process. In order to determine coding categories, the two researchers independently coded six maps randomly selected from the collected pre- and post-maps, and recorded categories and themes the responses suggested.

The researchers then met to discuss different ways to group these potential categories and developed a preliminary coding analysis form with larger constructs defined by more specific categories. A third coder was then trained to use the initial data coding sheet using the initial six maps randomly selected. After successful training, another set of six maps from the combined collection periods was randomly selected to test the veracity of the data coding sheet. As expected, new responses appeared on the maps that did not fit into the previously identified cat-

egories. With the agreement of all of the coding team, new categories were created as necessary, making the data coding sheet an evolving document. The goal was to produce a data coding sheet that captured all of the participants' responses.

Subsequent maps were coded in batches of ten. After every ten were coded, the three coders met for a reliability check. (One coder was subsequently dropped. See discussion of reliability below). During this process, revisions were made to the coding sheet as themes evolved and definitions expanded. Development of the Concept Map Analysis Form resulted in four major categories, (a) *Communication*, representing teacher/parent interaction or specific teacher advocacy on behalf of the parent or child; (b) *Role of School/Teacher*, representing the role of teachers in school settings; (c) *Perception of Family Issues*, representing perceptions of the issues families face raising a child with a disability; and (d) *Other*, for any items that fell outside of the major codes. Within these major categories were 22 sub-categories referred to as subtopics.

Coding Data

During the coding process, coders recognized the importance of stem concepts in order to fully code each branch of the map; stem concepts allowed the coder to determine the intent of the student for specific entries. We define a stem concept as the origin of the response or the category on which responses were attached. For example, on the pre-course map the student included the term "assessment" in two areas of the map. By using stem concepts, we determined that this student connected assessment to both teaching methods and child placement issues. Subsequently each "assessment" entry was coded separately. Every entry on a map was assigned a code based upon the analysis form and no responses were left uncoded. We initially coded maps from the first semester of the class pre- and then post-course followed by the second semester class maps, pre- and then post-course.

In addition to coding individual items on student maps, two holistic scores were assigned. Holistic scores were based on the tone of the overall reading of the map, in other words, all of the responses in sum and not just individual responses.

The first holistic score was named "positioning." This construct is based on the theoretical work of Harre & van Langenhove (1999). Specifically, we were interested in how respondents applied family-centered principles when positioning teachers and families in terms of expertise and leadership. Four holistic position scores were created: The respondents could position the teacher as expert (TE); the respondent could position the family as expert (FE); teachers and families could

both be positioned as experts (TF); or positioning may not be evident (NE) in the map.

The second holistic score represented the service provision priority of the respondent reflected in the map, i.e., whether the child or the system that serves the child was reflected as a priority on the map. Codes for this score were: The child with a disability is the focus and priority (CP); the system that serves the child is the focus and priority (SP); the map reflects a mixed priority focused on the child with a disability and the system that provides services (MP); or a focus or priority is not evident (NE) in the map.

During the data coding process, ten unusual maps were identified by the coders. These were set aside and all of the researchers met and reached consensus on the coding categories.

Reliability

Initially three coders were trained to use the coding sheet. Only two were trained to reliability; subsequently the third coder was dropped. Of the 98 total maps, eleven were used for training, seven were used for reliability, and ten maps were coded by consensus; all maps were used in this study. The primary coder independently coded the remaining 70 maps. These maps were organized into batches of ten and one map in each batch of ten was used to reassess reliability, thus accounting for the seven total used to assess inter-rater reliability. See Table 1 for inter-rater reliability.

Results

The process for developing the Concept Map Analysis Form resulted in four overarching categories: Communication, the Role of School/Teachers, Perception of Family Issues, and Other (for those responses not fitting within the other three categories). Data were analyzed in three distinct phases. Initially, descriptive analyses were conducted to examine

Table 1. Inter-rater reliability results for seven randomly selected maps.

	Total responses	Number coded	% agreement
Map 1	10	8	80
Map 2	21	19	91
Map 3	9	7	78
Map 4	21	18	86
Map 5	20	18	90
Map 6	9	8	89
Map 7	32	31	97

the number of responses in each category and the number of responses per participant in each of the three categories. To examine if changes occurred from the pre-course maps to the post-course maps, a series of McNemar tests were used to examine potential changes between subtopics in each category. The McNemar test "… assesses the significance of the difference between two dependent samples when the variable of interest is a dichotomy" (McNemar, n.d.). McNemar's test is considered appropriate for paired categorical data and has been used in a previous study of concept maps (Correa, Hudson & Hayes, 2004). Table 2 indicates the aggregate number of responses for each topic on students' pre-course and post-course map and the results of the McNemar tests. Finally, chi square analyses were used to examine differences in the two sets of holistic scores between the pre-course and post-course maps.

The first of the categories, "Communication," was defined as the interactions between parents and teachers. This category yielded four subtopics including interactions related to the flow through of information and paperwork, the verbal caring conversations between parents and teachers, and resource sharing. Overall students' added to their perceptions of "Communication." The average number of responses within the four subtopics increased from M=75.5 (SD=29.1) on the pre-course maps to M=103.75 (SD=35.05) on the post-course maps. The average number of pre-course responses per student in the "Communication" category was 6.22 (SD=5.56) and increased in the post-course maps to M=8.5 (SD=7.09). Within "Communication" there was an increase in the number of responses on post-course maps in the subtopic of *Purpose of Communication: Getting the Job Done*, but the result was not significant. Results revealed a significant change on the subtopic *Advocacy for Children and Their Families* (z=2.74, p<.01).

The second category, "Role of School/Teachers," covered five subtopics specific to the work teachers do with children in the educational environment. This category included improving academic and social outcomes and enhancing children's self-esteem, as well as the teacher's role as problem solver and provider of supports and accommodations.

Over the course of the semester, students' altered their perception of the "Role of School/Teachers" by recording fewer overall responses in this category. The average number of responses across the five subtopics reduced on the post-course map from M=97.6 (SD=99.30) to M=69.6 (SD=88.34). The average number of responses per student changed from M=9.96 (SD=8.68) to M=7.12 (SD 5.64). Only the subtopic *Improving Academic Outcomes/Pedagogy* showed a significant change in the students' perceptions with a strong reduction in post-course results (z=1.95; p<.05).

"Perception of Family Issues" was the third and largest category with eleven subtopics identified. "Perception of Family Issues" was defined as teachers' perceptions of the issues families face raising a child with a disability. Subtopics in this category included the advocacy role of parents, the supports families need, the role of family structure, resources, financial concerns, and family characteristics such as values, habits, culture and religion.

The descriptive results of the post-course maps reflected an increase

Table 2. Number of student responses on pre-course and post-course maps per topic.

Topic	Pre-course Responses	Post-course Responses	McNemar p value
Communication			
Mechanism for getting information			
between home and school–_____	47	58	.50
Purpose of communication:			
Getting the job done–	85	127	.66
Purpose of communication:			
Caring Professional–_	112	95	.23
Advocacy for children and their families	58	135	.01*
Role of School / Teachers			
Improving academic outcomes/pedagogy	173	82	.05*
Improving social outcomes	37	19	.22
Enhancing self-esteem	27	14	.41
Providing support and accommodations	234	219	.13
Problem solving/ready for anything	17	14	.28
Perception of Family Issues			
Roles of parents	20	38	.03*
Families need help	14	15	.72
Family activities impacted positively			
by disability issues	15	6	.72
Family activities impacted negatively			
by disability issues	19	17	1.00
Family structure	12	13	.79
Family structure—parent	6	6	.37
Family structure—siblings	11	11	1.00
Family structure—extended family	3	9	1.00
Interactions within family	29	26	.45
Financial concerns	4	24	.01*
Family characteristics	49	82	.01*
Family resources	8	26	.01*

* indicates a significant change in the participants' responses.

in students' perceptions of "Family Issues." Family issues were marked on pre-course maps in M=15.83 (SD=12.81) cases, but increased to M=22.75 (SD=20.98) instances in the post-course maps. The mean number of responses per student in this category increased from M=3.81 (SD=6.12) to M=5.49 (SD=5.10). Four significant changes were noted on subtopics in this category. First, post-course maps indicated more students included the *Role of Parents* on their maps (z=2.37; p. 03). Results also showed a significant increase in the number of participants who included *Financial Concerns* (z=3.36; p .01) *Family Characteristics (*z=3.13; p <.01*)* and *Family Resources (*z=2.74; p .01*)* in their post-course maps.

Chi square analysis was used to determine changes in the categorical data used for the holistic scores. The first analysis for the "Position" of teacher or family as expert revealed no change over time with the teacher positioned as the expert on 73% of the pre-course maps and 65% of the post-course maps ($X^2_{(1)}$=1.22; p>.05). The second analysis of the holistic data was conducted for the "Priority or Focus" of the map. Results revealed no change over time in student's perceptions ($X^2_{(1)}$=.02; 0>.05). Students perceive the special education system to be the focus prior to the course 42.86% and after 42.86%. The child was perceived as the focus on 30% of the pre-course maps and on 32.68% of the post-school maps.

Discussion

The process for developing the Concept Map Analysis form resulted in four overarching categories: (a) Communication, (b) Role of School/ Teacher, (c) Perception of Family Issues, and (d) Other (for any items that fell outside the major codes). Student generated data guided the development of the analysis form. The analysis form continued to develop throughout the coding process as our intent was to represent every item the students had included as part of data analysis. Only two items from the 98 pre- and post-course maps were coded "other." Coding the data was difficult and labor intensive and rigorous training was required in order to reach acceptable reliability levels.

Communication

Overall students added to their perceptions of communicating with families. Initially students viewed communication as being an interaction between the parent and the teacher, generally carried out by verbal means. By the end of the course, students expanded their view of the *Purpose of Communication: Getting the Job Done* to include *Advocating for Children and Their Familie*s. Specifically, students expanded their communication role to exceed completing the IEP and the required

paperwork process to include sharing information on resources and related services. Students moved away from communication as being a method of interaction to being a tool for meeting children's and families' needs. Post-course maps demonstrate communication as a two-way process wherein families were able to set the agenda for some of the interactions rather than simply responding to teacher directives. This finding directly links to the in-class consensus building activities, which emphasizes families' roles as team members. Overall, the tone of post-course communication responses represented a more respectful and more reciprocal interaction with families. Students relinquished the role of "power broker" and embraced the role of advocate.

Role of Teacher
It is not surprising that the students began the class by filling their concept maps with items supporting the traditionally perceived role of teacher as the academic leader. Students are influenced by television, newspapers, and other media, as well as their individual memories of school, all of which support a limited view of teacher tasks. Students' overall perception of teachers reflected this stereotypical teacher as the purveyor of knowledge, e.g., teaching lessons, assessing progress, meeting established standards. This perception was supported by previous teacher education coursework, which emphasized teaching methods and content of instruction. Methods texts typically end with a chapter on how to make the curriculum more meaningful by including connections with parents and families; in contrast, this course moved the role of families to the forefront, recognizing the positive impact of family involvement in children's education. This finding raises questions regarding the sequence of coursework in teacher education programs: Where should courses that try to change beliefs and dispositions be located within a series of content and methods courses?

The value of this type of course is that there were 50% fewer post-course responses reflecting the stereotypical perspective of teacher responsibilities. The post-course maps showed that students see teaching as more complex and collaborative. Post-course maps demonstrated that teachers' work goes beyond lesson planning and delivering of instruction and expands out into the community. Representative maps included items such as teaming, sharing resources, and showing compassion toward both child and family challenges. While we cannot change the results which found that students' perceptions of interactions with families did not meet the ideal standard, we do *celebrate* the fact that these students expanded their conceptions of the role of teacher to include positive interactions with families.

Perception of Family Issues

Students also changed in their understanding of the complexity of family characteristics and the challenges families face. This was the largest category, with eleven subtopics; of those, four subtopics, *Role of Parents, Financial Concerns, Family Characteristics,* and *Family Resources,* each showed significant change. There was an overall increase in the number of responses listed under the *Role of Parents,* as thirty-eight of the students included items under this subtopic in their post-course maps. While this change is significant, it is disappointing that more of the students did not recognize the importance of the parents' role as a collaborator in children's education. A student's true understanding of family-centered interactions would promote a view of the role of the parents as primary in determining those issues or concerns that were crucial to be addressed for their individual child (Trivette, Dunst, Boyd, & Hamby, 1995). The course text, "Caregiver Conversation" assignment, and consensus building activity each emphasized the individual nature of families' concerns and the importance of partnering with parents to determine the best way to attend to these concerns.

Eighty-two of the total 98 post-course maps included at least one item representative of *Family Characteristics*, e.g., family size, configuration, habits, culture, beliefs, traditions, religion. Students clearly developed a broader perspective of the characteristics that define and contribute to the distinctive qualities of each family system. The "Crossing the Line" activity and the "Family of Origin" project, as well as the course text, clearly expanded the students' perceptions of the multiple characteristics that make up families.

Additionally, through the "Caregiver Conversation" project students had the opportunity to visit with a family containing a child with disabilities. This direct interaction with a specific family encouraged the students to look beyond their own perceptions of family and expand their understanding of child and disability issues. Teachers who possess a broad understanding of the various attributes that define a family are in a better position to craft interactions based upon each family's unique characteristics (Bauer & Shea, 2003; Turnbull, Turnbull, Erwin, & Soodak, 2006; Umansky & Hooper, 1998).

Another subtopic from this category that showed a significant increase on post-course maps was *Financial Concerns;* however, only one-fourth of students' maps included an item in this subtopic. While significant, this result was disappointing given that three entire class sessions focused on issues of poverty and social status. Reflections on the two in-class activities linked to this topic seemed to indicate that students recognized the magnitude of these issues, yet despite this emphasis,

many students failed to see these issues as a priority when considering their interactions with families. This transformation obviously requires direct experiences with children and families experiencing socioeconomic challenges; however, at this point in their education, the students have not had a lot of direct experience in schools.

Students will subsequently come face-to-face with poverty and social status issues as they are placed in "at risk" schools in high poverty areas. We hope that students will then remember these experiences and apply appropriate interactions regardless of families' social and economic conditions. These disappointing results may also be due to students' perceptions of the overarching conditions of disability and all the implications that follow a disability diagnosis—they do not envision a lack of social standing and/or economic resources as an additional layer of complexity that can challenge families of children with disabilities.

Family Resources was the final subtopic under this category in which post-course responses revealed significance. It is encouraging that students are beginning to recognize extraneous support systems separate from financial resources or resources available through the school system, i.e., friends, neighbors, as being crucial to family systems containing a child with a disability. Yet only one-fourth of the students included an entry on their maps under this subtopic. Their experiences interviewing families containing a child with a disability during the "Caregiver Conversation" assignment may have enlightened them on the complexity of day-to-day activities these families face and the importance of accessing supports. Additionally, an understanding of families' dependence on community programs addressing the needs of children with disabilities surfaced during some of these interviews. Again, it is important to note that these students have had limited interaction with schools and their subsequent interactions with families containing children with disabilities during practicum placements and student teaching will allow them to grow in understanding of the importance of extraneous resources to these families.

Holistic Scores

The result of the holistic scoring procedure that examined the position of "expert" was surprising at first glance. Preservice teachers positioned the teacher as the expert in 73% of the pre-course maps and 65% of the post-course maps. It was thought that experience in the course would change students' perceptions on who they positioned as the expert. Given the focus of the course and the "family-centered" perspective framing of the course, the instructor expected to see a significant change in the teacher *and* family (TF) jointly positioned as experts. It is impossible to

determine if the students' were positioning their "self" (p. 7) as Harre & van Langenhove (1999) describe, or themselves as the unknown teacher expert they are hoping to become; the fact remains that the students' forced positioning of the family as a subordinate may lead to restrictions that are not favorable. Families positioned as subordinates will be less likely to initiate conversations, ask for clarification, share family circumstances, share resources or participate in advocacy (Turnbull, Turnbull, Erwin, & Soodak, 2006). The loss of any of these behaviors damages the teacher-family relationship.

While IDEA may espouse a "person-first" perspective, it was evident in the concept maps that preservice teachers were more focused on the system rather than the "child." It was the legalities of IEPs, IFSPs and IDEA that captured the attention of students rather than the human beings the law and its mandatory documents were designed to protect. While the instructor approached the class from a child and family centered perspective, it appeared to make little impact when viewing their maps from a holistic perspective.

At the beginning of the course, the students focused on special education as a system; by the end of the course, regardless of the numerous activities in which they participated and the family stories they heard, they did not move away from seeing the focus of the class on the special education system and its requirements. This focus on the system raises concerns for teacher educators and our approach to teaching the law and its requirements. Perhaps in our concern for children and families we too zealously impress on our students their responsibilities under the law. In doing so, it is possible that teacher education students only see the law as a series of rules and regulations that must be followed or else risk being out of compliance. As teacher educators we may be failing to underscore the sensibilities in the law that protect children and their families. It seems imperative to rectify this situation; if in fact our students teach the way they are taught, they may be taking a heavy handed approach with families as they work through their legally mandated assignments. For example, it is possible that our students are sending messages to the families they encounter that completing the IEP is more important than the people involved in the process.

Limitations

It is important to examine the benefits and challenges of using concept maps as a tool for evaluating teaching efficacy. As used in this study, concept maps proved to be very student friendly—they were completed as part of an in-class activity with no grades assigned. This format was

relatively stress-free for students. Students were completely free to include whatever concepts held importance to them on their maps, students were not prompted as to what to include, and all students received the same instructions regarding the basics of map construction. The students were not informed that their maps would be used to evaluate the effectiveness of the course. These same benefits in using concept maps also contributed to the challenges. A substantial number of unexpected items appeared on the maps due to the freedom the students had in constructing them. While this freedom provided rich, robust data, it also complicated data analysis and contributed to the cumbersome task of coding responses. As a solution to the data coding complexity, we developed the procedure of stem concepts as it was important for us to acknowledge students' perspectives in including specific items on their maps.

There are limitations to the concept mapping procedure. Although students are encouraged to ask questions about mapping, they are constructing their maps immediately after being taught about them. There may be some limits to students understanding of the process. While some students took the time to create complex maps, others did not take sufficient time to develop their maps. Another limitation is that we do not know how much prior knowledge students may possess about a given topic; for example, some students may have family members with disabilities making them privy to disability issues. These students may construct more detailed maps based upon individual experience rather than course content. A further limitation is that we chose to give every item students listed equal priority. Using our methodology, credit for a subtopic was given if students included a representative item on their maps. We did not give additional emphasis to concepts that were included multiple times and items were not weighted by their relative position on the maps; i.e., the stem concept received no more credit than items on distant branches. During coding, the instructor of the course had difficulty achieving reliability with the other coders. This may be due to the intimacy she had with the subject matter and course activities. This intimacy made it easy to project her interpretations into the definitions of the categories.

Conclusion

This study addressed the question of whether a single semester course would develop and enhance preservice teachers' attitudes towards collaborating with their students' families. While changes were noted in our students' overall perceptions of three major categories, "Communication," "Role of Teacher," and "Perception of Family Issues," significant

findings in more specific subtopics were limited. This is not surprising considering the complex nature of implementing change in beliefs (Hunzicker, 2004; Nespor, 1987; Shechtman, 1994), yet the rigorous format and content of a single course focused on family involvement initiates the "transformative" experiences of preservice teachers and contributes to disequilibrium in thinking about their potential interactions with children's families. It is imperative that teacher educators collaborate with colleagues delivering pedagogical coursework and field experiences to ensure that issues of family involvement are effectively embedded within subsequent courses. Including these important concepts in all preservice teacher experiences assures the transformation of preservice teachers' beliefs about families will continue.

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