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IDENTIFYING PARTICIPANTS' PERSPECTIVE CHANGES IN MEDIATION TRAINING

USING Q METHODOLOGY

By

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(Under the Direction of Robert Maribe Branch)

ABSTRACT

The purpose of this study was to identify and measure participants' perspective changes in the context of mediation training. Q methodology was used to develop the instrument measuring perspective and to provide holistic data analysis. The three factors that emerged before training were reduced to two factors at the end of training. Pre-training and post-training results were compared. Nine out of ten participants had a statistically significant change in perspective. Participants indicated that role-play and debriefing activities were important in promoting their perspective change. Additionally, this study sought to provide evidence to address the claim that professionals from the field of law often have a perspective on conflict resolution in opposition to a mediation perspective. The results of the study showed that the two practicing lawyers in the study began the training with perspectives furthest from a mediation perspective, and that at the end of the training both revealed perspectives closer to the perspective of a mediator as promoted in the training.

INDEX WORDS: perspective change, mediation training, adult learning, Q methodology

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DEDICATION

To everyone who believed I could do it, especially those who didn't live to see it done.

"Not that I have already obtained all this, or have already arrived at my goal, but I press on to take hold of that for which Christ Jesus took hold of me. Brothers and sisters, I do not consider myself yet to have taken hold of it. But one thing I do: Forgetting what is behind and straining toward what is ahead, I press on toward the goal to win the prize for which God has called me heavenward in Christ Jesus." *Philippians 3:12-14*

What, then, shall we say in response to these things? If God is for us, who can be against us? *Romans 8:31*

ACKNOWLEGMENTS

TABLE OF CONTENTS

LIST OF TABLES

LIST OF FIGURES

CHAPTER 1:

INTRODUCTION

Mediation is a form of conflict resolution. Although the practice of mediation has a

much longer history around the world, mediation within the court system of the United States

dates back to the early 1980s (Bush, 2008). Ethical guidelines governing mediator practices

within the court system specify that mediators should adopt a specific perspective regarding

conflict resolution. This perspective is referred to as facilitative, and is characterized by the

mediator's focus on empowering parties to make their own decisions by concentrating on their

needs and interests rather than their rights and positions in a conflict (Riskin & Welsh, 2008).

Mediation within the court system is in close proximity to other forms of conflict resolution like

litigation that subscribe to much different perspectives on conflict resolution. Specifically, there

is a concern in the field of mediation that lawyers and others grounded in adversarial legal

experience and practice have great difficulty adopting the facilitative perspective required of a

mediator (Alfini, 2008; Kovach & Love, 1998), or are unable to make the transition to a

mediator's approach to conflict resolution at all (Calkins, 2011; Guthrie, 2001). The

presumption is that training designed intentionally to address this issue has the potential to

influence the perspectives of those who complete mediation training. The problem is that it

remains unclear if training dedicated to this situation can promote perspective changes. Hinshaw

and Wissler (2005) articulated the problem in this way: "the mediation field as a whole lacks

systematic empirical research evaluating the effectiveness of mediation training" (p. 22).

Furthermore, there is little agreement on how to empirically establish the perspectives that

participants come to the training with, which is necessary in order to determine any change in their perspectives.

Purpose of Study

The purpose of this study was to measure differences in perspectives regarding conflict resolution in a pre-post design with mediation training as the intervention. Additionally, this study sought to provide evidence to address the claim by scholars like Kovach (2007) and Calkins (2011) that professionals from the field of law often have a perspective on conflict resolution in opposition to a mediation perspective. The intervention chosen was training aligned with transformative learning strategies intended to promote the affective learning goal of perspective change. Furthermore, this study sought to provide evidence for what aspects of the training might have contributed to changes in perspectives. Figure 3 depicts the purpose of this study in terms of the measurements obtained at two times.
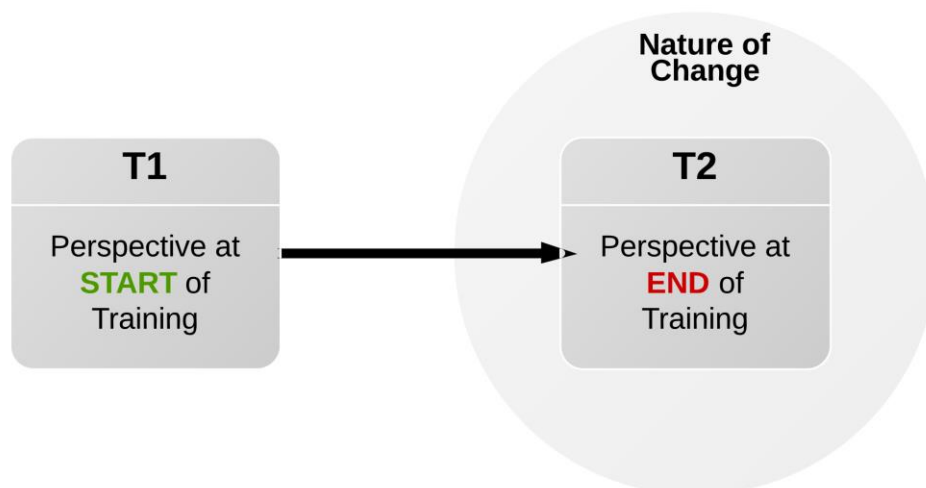
Figure 1. Measurements depicted in the study at time 1 and time 2.

Conceptual Framework

The primary concept informing this study was that perspectives can be changed through training. The affective goal of mediation training is to develop the perspective of conflict resolution corresponding to the core values associated with the practice of mediation. Therefore,

the conceptual framework of this study sought to confirm the idea that people's perceptions prior to training can be influenced by training. This study was based on the idea that a performance gap concerning perspectives guiding behavior can be addressed through training using instructional strategies that support the transformative learning goal of perspective change.

Gaining a better understanding of how adult learners experience perspective changes in the context of mediation training could inform the design of training to help participants adopt a mediation perspective. In order to understand what it takes to move learners from their current perspective to the perspective of mediation put forth in training, it is necessary to first understand what each learner's current perspective is at the outset of training. This study sought to provide empirical evidence regarding how perspectives can be measured before and after training, and what those perspectives are. This study could inform future trainings that seek to address specific challenges related to perspectives on conflict not aligned with the goals of mediation. Results from this study could inform instructional design practices regarding the development of training for perspective change in the context of mediation or other training with similar affective learning goals.

Effective instructional design relies on aligning learning objectives with the goals of instruction. Branch (2009) refers to this alignment as a "clear line of sight" indicating the ability to maintain alignment with goals and objectives from start to finish in the instructional design process (p. 60). A clear line of sight requires a distinct connection between where a learner starts and the goals of where the learner is expected to finish, with the understanding that any interventions guide the learner to the end goals. A study focusing on analyzing perspective change of participants in a general mediation training course should begin with the ability to identify the perspectives that participants start with in their training experience, and have an

analysis plan that can measure any changes in those perspectives after the intervention of training. Being able to identify the subjective perspective that participants start training with and the perspective that participants end training with, as well as measuring the difference between the two, informs the conceptual framework of this study.

The practice of instructional design emphasizes the importance of learner analysis to establish the general attributes of learners coming into the specific training environment. In order to recognize the move from an initial perspective to a changed perspective, a baseline for the learner's existing perspective is required. Instructional design promotes the practice of gathering baseline data for learners prior to designing. This practice enables the ability to track progress towards the predetermined learning goals of the training. This learner analysis information, however, is usually gathered before training and is general and not specific to the individual learners for the training under design (Kenny, Zhang, Schwier, & Campbell, 2005). The current study sought to identify baseline perspectives of participants in the training in order to measure perspective changes based on the affective learning goals of training.

Theoretical Framework

Transformative learning theory, the primary adult learning theory dealing with perspective change, provided the framework to address research questions concerning perspective change. Transformative learning theory deals with the process of changes in perspective that adult learners may experience as they reexamine and modify their viewpoint of how they know and respond to the world (Mezirow 1995, 1997). Additionally, a theoretical framework concerning mediator orientations informed the creation of the instrument used to measure perspectives in this study.

The literature that frames the way the fields of Alternative Dispute Resolution (ADR) and Law perceive conflict resolution is central to a study of perspective change in mediation training. The predominant perspectives on conflict resolution that come to bear on the practice of mediation within the court system are adversarial, evaluative, and facilitative. Research conducted by scholars and practitioners that spans both the fields of ADR and Law such as Gutherie (2001), Kovach and Love (1998), Nolan-Haley (2002), Riskin (1982), and Riskin and Welsh (2008) address the problem of the conflicting philosophical maps of lawyers and mediators, particularly when lawyers become mediators. Therefore, the creation of the instrument used to measure perspectives in this study was informed by the theoretical framework of the three major perspectives influencing mediator perspectives: adversarial, evaluative, and facilitative.

Practical Framework

The results of this study could be immediately applied to the systematic design of mediation training. Specifically, results from the current study could inform the development of a more robust learner analysis instrument for mediation training, and could also contribute to an understanding of how to develop learner analysis and assessment tools to address the specific perspective changes necessary in a variety of training settings. The mediation training in this study promoted a specific perspective toward conflict resolution as an affective learning objective. The design of the training included transformative learning strategies that encourage reflective thinking and the experiential learning of conflict resolution through the pedagogical use of simulations, including role-play activities, debriefing exercises, case studies, and interactive discussions. Such a design promoted opportunities for learners to engage in the critical reflection and discourse that Mezirow (1991, 1997) promoted as central to experiencing

a perspective change through transformative learning. Therefore, this type of training was ideal to test the theories regarding perspectives on conflict that participants entering into training have and how participants might change their perspective by the conclusion of training. The results of this study provided insight about ways to effectively measure perspectives of participants in an introductory mediation course in order to ascertain if training had the desired impact on perspectives.

Research Questions

There is concern about the competing perspectives on conflict resolution within the intertwined fields of Law and Alternative Dispute Resolution. One of the main affective goals of mediation training is to impart a mediation mindset consisting of a facilitative perspective toward resolving conflict. This perspective is intentionally meant to counter adversarial or evaluative perceptions that might come from the influences of the proximity of litigation and other legal practices. The individual's perspective on conflict resolution must be measured or otherwise ascertained in order to assess whether an individual has developed a mediation perspective at the end of training. In order to know if that perspective could have come about as a result of or in conjunction with completing mediation training, a baseline measurement or identification of the initial perspective is also necessary. The main focus of this study was to identify and measure perspectives in a repeated measures design in order to address the following research questions:

1. What perspectives on conflict do individuals entering into an initial mediation certification course have?

2. How do participants' professional experiences prior to an initial mediation certification course relate to their perspectives on conflict at the start of training?

3. How do participants' perspectives on conflict change at the end of an initial mediation certification course?

4. What change in perspective do mediation training participants claim is most significant upon completion of an initial mediation certification course?

5. What aspect of the training do participants identify as having the greatest impact on their change?

CHAPTER 2:

REVIEW OF RELATED LITERATURE

Perspective was the main variable under investigation in the current study involving mediation training with the affective learning goal of perspective change. Training was the context for identifying the perspectives and measuring changes. Mediation training presumes that a specific facilitative perspective toward conflict resolution can be taught. In order to address the problem of how anyone can develop the appropriate perspective of a mediator it was important to identify participants' perspectives at the start of training. Identifying starting perspectives provided baseline measurements to use as a comparison to the facilitative perspective promoted in the training, and to the measured perspective of participants at the end of training. Transformative learning was the primary theory that informed the current study. Q methodology guided the data collection and analysis procedure for this study. This study sought to identify changes in the perspective of participants in a mediation training course through the use of Q methodology and the development of an instrument specifically designed to establish the subjective measurement of perspective. The following review clarifies key terms used in this study.

Perspective

Perspective change is contained within the affective domain of learning, which is described by Bloom (1956) as involving "changes in interest, attitudes, and values, and the development of appreciations and adequate adjustment" (p. 7–8). Fang, Kang, and Liu (2004) defined perspective within the context of educational change as a mindset comprised of "the basic assumptions, beliefs, core values, goals and expectations shared by a group of people who

are committed to a specific field, and what they will use as rules to guide their attitudes and practice in the field" (p. 299). Mezirow (1991) characterized perspective change as a central aspect of transformative learning theory, defining perspective as "broad sets of predispositions resulting from psycho-cultural assumptions which determine the horizons of our expectations" (p. 23). Perspective is defined as a composite of aspects located within the affective domain of learning involving feelings, attitudes, and values that shape thinking and behavior by determining the mindset with which an individual approaches situations. The operational definition for perspective in the current study is the mindset comprising the attitudes and values that influences how an individual perceives and responds to a given situation. The perspective under investigation in this research study was how participants in a general mediation training course viewed conflict resolution.

Mediation Overview

Mediation is a form of alternative conflict resolution available within the court system or outside of the courts. Mediation is one pathway for conflict resolution. Other pathways for conflict resolution could entail litigation, informal conversation, or even physical confrontation. Figure 2 depicts the ways mediation can be used as a response to conflict resolution, as a process conducted within the court system or outside of the court system.
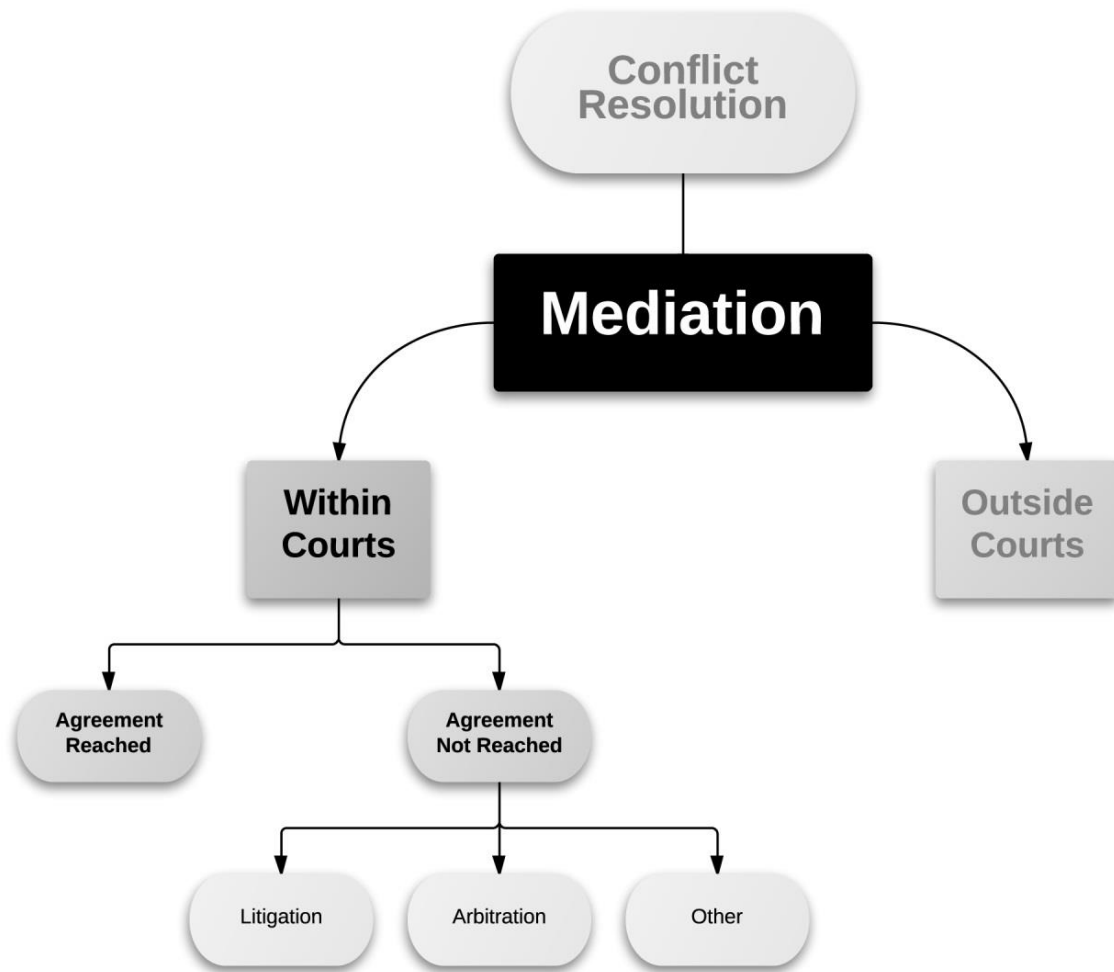
Figure 2. Mediation as a form of conflict resolution.

Historically, mediation has a much longer history of practice outside of the court system and is used today in a variety of circumstances ranging from community organized mediations, mediations within corporate or educational settings, mediations in national contexts, etc. Mediation within the court system is part of a field of practice known as Alternative Dispute Resolution (ADR). Mediation is a process in which a third party assists disputants to resolve the conflict so that all parties agree. An agreement is indicated by signing a binding agreement crafted specifically as a unique end product. The conflict resolution process is complete when an agreement is reached within the court system process. The parties involved move to another

avenue for conflict resolution if an agreement cannot be reached within the mediation. Other

avenues for conflict resolution within the court system could involve litigation or arbitration.

The context for this study was training for mediation within the court system.

Mediation shares the field of ADR with other processes, such as case evaluation in which

a third party with professional legal experience provides evaluative guidance on what the legal

claims are within the dispute. However, mediation is a distinctly different process, as providing

legal advice is strictly prohibited in mediation and considered a violation of ethical standards

(Weidner, 2006; Raines, Hedeen, & Barton, 2010). In addition to ADR processes, mediation's

proximity to the adversarial and evaluative practices of the court system has created tension

between the principles and the practice of mediation. Figure 3 depicts the problematic

relationship of mediation with the court system.

Figure 3. Facilitative mediation in the adversarial context of the court system, influenced by evaluative perspectives on conflict resolution.

The problem, as recognized by many in the field of Law and ADR such as Alfini (2008), McAdoo and Welsh (2004), and Kovach (2007), is that the perspective of lawyers regarding conflict resolution is often in stark contrast to the perspective required of mediators. Mediators are compelled by ethical guidelines that govern the practice of mediation within the courts to function from a facilitative perspective of conflict resolution. However, court sponsored mediation exists within an atmosphere of adversarial practice that defines the court system. In addition, the practice of lawyers as mediators and as counsel to parties within mediation can exert the pressure of evaluative practice on the facilitative principles that define mediation (Calkins, 2011; Kovach, 2007). The struggle between evaluative and facilitative approaches to mediation is more than a theoretical concern, as it plays an important role in the causes of ethical complaints against practicing mediators (Raines, Hedeen, & Barton, 2010; Young, 2006). The difference between evaluative and facilitative mediation is also significant because, to a certain extent, it is at the root of the struggles in the training of mediators and the practice of mediation (Riskin, 1982; Stulberg, 1997). The next section describes the significant differences between the evaluative and facilitative approaches to mediation.

Facilitative vs. Evaluative Approaches to Mediation

A facilitative approach to mediation reflects the main principles of party self-determination, process fairness, impartiality, and the role of the mediator as a supportive facilitator guiding the parties to develop their own solutions (Hedeen, Raines, & Barton, 2010). Kovach and Love (1998) point out that the model standards of conduct of mediators supported by the American Bar Association, the American Arbitration Association, and the Society of Professionals in Dispute Resolution promote facilitative mediation with the principle of self-

determination at the core. An evaluative approach to mediation allows the mediator to work

from a perspective more in line with legal perspectives concerned with justice as defined in the

law, and not based on needs and interests of the parties outside of the strict parameters of a legal

verdict. As such, power shifts from the parties to the mediator who provides an evaluation of the

legal claims in the mediation.

The distinction between the evaluative and facilitative perspectives found in these

different styles of mediation was famously articulated by Riskin (1982) who wrote about the

lawyer's philosophical map in contrast with the mediator's philosophical map. The root of

Riskin's (1982) original observation about mediators and lawyers was that "the philosophical

map employed by most practicing lawyers and law teachers … differs radically from that which

a mediator must use" (p. 43). This position is supported by many in the field who see at best a

challenge in training lawyers to be mediators (Kovach & Love, 1998), and at worst an impasse

for those grounded in legal experience and practice to effectively take on the mantle of mediator

(Calkins, 2011; Guthrie, 2001). However, Riskin went beyond making the distinction between

lawyers and mediators to focus on the variety of practices found under the heading of mediation

in the development of his influential and controversial "grid for the perplexed" (Riskin, 1996).

Figure 4 depicts Riskin's grid, which divides the vertical axis into evaluative and facilitative, and

the horizontal axis into narrow and broad orientations.

According to Riskin (1996), the mediator who identifies with the evaluative section of the

grid assumes that participants want and need guidance to determine grounds for settlement,

based on law, industry practice, or other expertise that the mediator has and provides in the

mediations service. In contrast, the mediator who identifies with the facilitative section of the

grid assumes that participants can create their own solutions and that the mediator's role is to

clarify and enhance communication between parties for them to come to their own solutions

(Riskin, 1996).

Role of Mediator

EVALUATIVE

EVALUATIVE NARROW	**EVALUATIVE BROAD**
FACILITATIVE NARROW	**FACILITATIVE BROAD**

Problem Definition **NARROW**   Problem Definition **BROAD**

FACILITATIVE
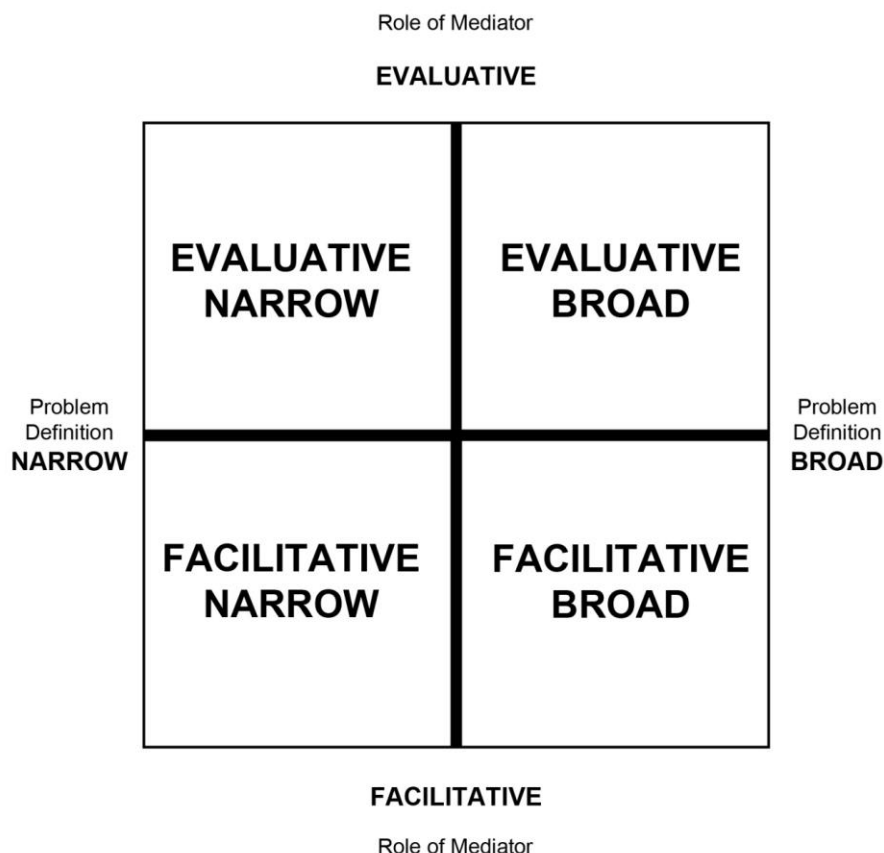
Role of Mediator

Figure 4. Grid of mediator orientations from Riskin (1996).

Riskin (1996) described the narrow to broad continuum with narrow representing

responses grounded in the adversarial context of litigation, and broad designating responses

grounded in the facilitative context of mediation as sanctioned by the ethics guidelines for

mediation within the court system. Narrow approaches to the problem in conflict resolution

focus on litigation and business interests, whereas broad approaches to the problem in conflict

resolution focus on personal, professional, relational, and community interests (Riskin, 1996).

The way in which mediators see their role reflects the evaluative or facilitative perspective, and

the narrow and broad categories help define the way mediators define problems within

mediation.

Although there is a specific expectation and requirement of training under the rules and

guidelines for court connected mediation to adhere to facilitative mediation guidelines,

evaluative mediation is commonplace. Because of the prevalence of evaluative practices within

mediation, Riskin sought to "communicate with some clarity about what can, does, and should

happen in a mediation" with his grid for practicing mediators (1996, p. 38). Krivis and McAdoo

(1997) used the distinctions made by Riskin (1996) to develop a Mediation Classification Index

(MCI). According to Krivis and McAdoo (1997), the MCI provides a snapshot of a respondent's

natural tendencies as a mediator as it attempts to indicate the perspective that the respondent

would most commonly use to approach conflict resolution. Riskin's (1996) original grid helped

define the practice of mediation as a continuum ranging from broad to narrow approaches in the

application of evaluative and facilitative styles, and made visible the distinctions between a

litigation mindset and a mediation mindset in the practice of mediation, even in the midst of

concerns over adversarial approaches influencing the core values of mediation. However, this

framework for understanding the practice of mediation did not resolve but rather created further

controversy in the field over the appropriate approach in practicing mediation.

The controversy surrounding Riskin's articulation of the existence of both evaluative and

facilitative practices within mediation through his influential grid comes from two main

positions. First, there are those who maintain the ideal of mediation as a facilitative practice

(Brown, 2012; Kovach & Love, 1998; Stulberg, 1997). Second, there are those who encourage a

broader understanding of the practice of mediation to include an evaluative perspective (Birke,

2000; Lowry, 2004). The first group complains that Riskin's grid goes too far in normalizing an

evaluative perspective that does not belong in the practice of mediation. They contend that arguments that underpin Riskin's grid have given license to taint the acceptable practice of mediation by introducing thinking characterized by litigation (evaluative) into the more purist understanding of facilitative mediation (Alfini, 2008). Kovach and Love (1998) indicated that the problems of the normative implications in the grid system (Riskin, 1982, 1996) instantiated evaluative mediation as a viable option in the field. The other group claims the grid is too limiting and needs more of a continuum representation to more accurately represent the practice of mediation as encompassing aspects of both evaluative and facilitative perspectives (Golan, 2000; Roberts, 2007). Studies like Goldberg and Shaw's (2007) and Dunham's (2012) reveal the conflict between the realities of the practice of mediation and the theory of how training and divisions of oversight articulate the practice of mediation. Dunham's (2012) study suggested that the practice of mediation is almost always a combination of facilitative and evaluative approaches, and recommended that trainers take this into account. However, in order for a training program to be approved by the governing body of that state, requirements are that the curriculum match the guidelines, which are still widely defined as facilitative (Raines, Hedeen, & Barton, 2010). The fact that this conflict of perspectives exists in the practice of mediation supports the practical need for perspective change to be part of training designed to promote the perspective in the ethics guidelines.

Mediation Training

One of the greatest challenges for learners of all backgrounds in mediation training is to develop a mediation perspective regarding conflict, which may be quite different from their previous experiences. There is a presumption in much of the literature in the overlapping fields of Law and Alternative Dispute Resolution that lawyers and mediators possess different and

even opposing perspectives toward conflict resolution. The difference is not just in how lawyers

and mediators practice conflict resolution, but in their attitudes toward conflict resolution (e.g.,

Alfini, 2008; Guthrie, 2001; Hyman, 1998; Riskin, 1996; Welsh, 2001). This difference and

opposition in perspectives created controversy in the practice of mediation as more and more

lawyers and judges expanded their practice into the ADR arena of mediation (e.g., Calkins, 2011;

Hensler, 2003; Nolan-Haley, 2002). Some scholars like Guthrie (2001) questioned whether or

not individuals with expertise and training in the law such as lawyers and judges have the ability

to think like mediators. Others like Aldave (2000) recognized the need for extensive

"reprogramming" of lawyers and judges seeking to practice mediation. Still others like LeBaron

and Zumeta (2003) recognized additional factors beyond professional experience in the legal

field as having an impact on the ability to successfully adopt the perspective of a mediator.

Critics of evaluative mediation like Alfini (2008) and Stuhlberg (2012) warned against

lawyers practicing mediation, claiming they tended to draw the experience away from the

facilitative model and into an adversarial paradigm more in line with a lawyer's perspective on

conflict resolution. Goldfien and Robbennolt (2006) suggested that the growing involvement of

lawyers as advocates in the mediation of disputes, and as practicing mediators, was influencing a

move to more evaluative mediations. The recognition of the influence of lawyers and the court

system on the practice of mediation is particularly relevant for training. As more lawyers and

other court-connected personnel enter into the practice of mediation, they bring with them

experiences and training that works against the development of a mediation mindset (Welsh,

2001; Wissler, 2002; Goldfien & Robbennolt, 2006). Calkins (2011) explained the limitations of

a litigious perspective in claiming that in mediation settings, "attorneys, shackled with advocacy,

often miss the obvious and the not so obvious" (p. 44). Guthrie (2001) analyzed lawyers'

attitudes and personalities and concluded "the empirical evidence suggests that most lawyers are unlikely to be able to sustain purely facilitative, non-evaluative behavior in mediation" (p. 164). Beyond the instrumental learning of process and procedures, participants in mediation training need to develop the perspective of a facilitative mediator. This puts the need to develop a facilitative perspective at the center of mediation training.

Best Practices in Mediation Training

Since the growth of mediation for the court system in the United States in the early 1980s, experts have agreed on the need to develop training that included a combination of procedural information, substantive information, and knowledge and skills related to interpersonal communication (Adler, 1984; Moore, 1983). Adler (1984) emphasized mediation training as a skill-development activity, focusing on practice, preparation, and self-evaluation as well as peer-evaluation. Stulberg (2000) continued to emphasize practice, as well as skills transfer through interactive exercises. Carroll and Mackie (2005) identified three key ingredients for mediation training programs, including a focus on practice, rigorous personal assessment through critical reflection, and high standards for faculty based on experience in both mediation and training (p. 170). McAdoo and Manwaring (2009) promoted a performance-oriented curriculum for training to help with the complex problem of transfer.

Raines, Hedeen, and Barton (2010) reported six recommendations related to best practices for mediation training involving: 1. the design of mandatory core training, 2. the importance of role-play, 3. limiting class size and updating materials, 4. integrating and alternating teaching methods, 5. including substantial and consistent training on mediator ethics, and 6. insisting on high standards for trainer qualifications. The recommendation for the design of training is the requirement of a 24-hour core training to cover the mediation process and

fundamental skills (Raines et al., 2010). This is often followed by a minimum of 12 hours

observing actual mediation cases, which reflected some existing state programs, including

Georgia's. However, Raines et al., (2010) recognized that the duration of training was not

research-based, citing Honeyman, Hughes, and Schneider (2003) who explain that the common

40-hour training model was "an artifact of convenience, not a planned and pedagogically sound

strategy" (p. 429). Honeyman et al., (2003) revealed anecdotally that the origins of the 40 hours

of training came about as a result of the five-day cheap rate at the conference hotel where

training had been scheduled. The training was a success among the participants and the model

was copied and used until the 40-hour length became "standard" (Honeyman et al., 2003).

Because of competition between training courses and the need to make money, an industry

standard came to be, even though experts in the field continue to promote more time as necessary

to accomplish the desired training goals (Stuhlberg, 2000, Raines et al., 2010). Given that

training has an arbitrary but market-driven time constraint of 40 hours to include the core skills

training and observation practicum, training designs need to maximize efficiency and

effectiveness.

Raines et al., (2010) recommended maximizing time spent on role-play, debriefing

discussions, and critical analysis of practice experiences. Raines et al., (2010) further advised

that small group critique and large group debriefing should be increased from what they found to

be the common practice of fifteen minutes to at least thirty minutes or longer. Although their

study found class sizes to vary from six to 40, Raines et al., (2010) recommended smaller classes

of between six and 24 to allow for more detailed question sessions and a higher level of per-

student interaction and engagement. Overall, the most important aspects of the findings

identified by Raines et al., (2010) relating to the delivery of training were variations in teaching

methods, the importance of role-play and debriefing in providing trainees with experiential and reflective learning, and the importance of ethics training to promote a facilitative perspective.

Variations in teaching methods. Barton, Raines, and Hedeen (2008) recommended alternating teaching methods in mediation training between short lectures, small and large group discussion, case studies, role-plays, videos, and demonstrations to keep participants engaged and promote higher levels of learning and satisfaction (49). Recommendations from Raines et al., (2010) were directed at providing participants opportunities to begin incorporating the knowledge, skills, and habits into their practice. However, first, the knowledge and skills need to be introduced in the training. The transactional model of direct instruction is a variation on the lecture format that supports the recommendations for mediation training from Raines et al., (2010).

Direct instruction. Most models of direct instruction focus on teacher behaviors, but the transactional model promoted by Huitt, Monetti, and Hummel (2009) promoted greater interaction between teacher and student. The basic stages of direct instruction involve presentation of the material by the teacher, practice of the knowledge and skills by the students, followed by assessment and evaluation, and monitoring and feedback in all stages (Huitt et al., 2009). Raines et al., (2010) indicated that short lectures were best for delivering procedural and substantive information in mediation training, but that due to time constraints and adult learner characteristics, lectures should be kept at a minimum. When used, lectures should impart the necessary information, and should involve as much interaction in the form of discussion and application activities related to the information presented by the trainer, as in the model of direct instruction. The presentation phase of the direct instruction model as described by Huitt et al.,

(2009), although intended for K-12 audiences, outlines an efficient way of using short lectures in the training context.

The direct instruction model begins with the review of previous material. Such a review follows Merrill's (2002) activation principle of instruction and relates to Knowles' (1990) assumption that adults come to learning with extensive and different kinds of experiences than youths. The direct instruction model continues with a clear statement of the specific knowledge or skills to be learned; a reason why it's important, which relates to Knowles' (1990) assumption that adults have a need to know why they should learn something; a clear explanation of the knowledge or skill to be learned; and opportunities for learners to demonstrate their understanding and respond to the trainer's probes, which relates to Merrill's (2002) demonstration principle of instruction.

However, direct instruction, even with interactive exercises for practice and feedback, is not the main focus of mediation training. Hedeen et al., (2010, p. 160) shared Moore's (1983) concern about the limits of what training as primarily a one-way delivery system could expect to accomplish: "Exposure to the substantive, procedural and psychological knowledge that mediators need does not, in itself, produce competent and effective mediators. This knowledge must also be integrated by new practitioners," (p. 87). The integration of new skills involves applying the learned knowledge and skills in real-world situations. Even when a mediator learns the procedural and substantive process skills, the complexity of responses necessary for the mediator to maintain the appropriate facilitative perspective when dealing with the unknown variables of parties in the mediation involves affective learning. The affective learning goal of adopting a mediator's perspective informs the viewpoint, attitude, and values that determine the way the procedural and substantive knowledge is used in practice.

According to Gagné (1988), strategies for establishing affective learning goals related to attitudes were different from methods used to teach intellectual and cognitive skills. Intellectual skills were defined by Gagné (1970) as the basic skills that form the building blocks for thinking through more advanced subjects. Using a learned definition appropriately is an example of an intellectual skill. Beyond intellectual skills, Gagné distinguished the two domains of cognitive strategies and attitudes related to affective learning. Cognitive strategies involve what Gagné (1988) called internally organized skills that govern the behavior of an individual in learning, remembering, and thinking. Unlike intellectual skills that can be learned without practice, cognitive strategies must be practiced and continually refined as the learner solves problems using these strategies. Target attitudes can only be obtained by observing and modeling others, reflecting over the outcomes of the observed behaviors, and reinforcement by others who agree with and support the resulting behaviors. Gagné (1988) explained that one of the most effective ways of changing attitudes was by means of the human model and vicarious reinforcement.

The practices of a mediator involve the learning domains of intellectual skills, cognitive strategies, and attitudes as related to affective learning. Short lectures, with interactive practice components, can present intellectual skills and begin to reinforce cognitive strategies. Cognitive strategies are most dominant in the experiential learning and reflective practices of role-play and case studies. Role-plays and their accompanying debriefing, as well as case studies and their accompanying group analysis, also incorporate the critical practice of self-reflection and feedback. These critical practices inform the development of cognitive strategies and the affective learning goal of perspective change.

Reflective learning. Reflective learning includes the activities of role-play, debriefing, and case studies. The importance of role-play was reiterated in the best practices report by

Raines et al., (2010), and recommendations included allowing all trainees to participate as a mediator, incorporating as many role-play opportunities as possible into the training, creating partial process role-plays to cover specific issues like agenda setting, and increasing time for debriefing and analysis in both small group and large group settings after role-play activities. Class size recommendations were to limit participation to 24, with an emphasis on the greater interaction and individual participation that even smaller class sizes could have. In addition, this recommendation included the need to continually update materials to include relevant and recent cases. The recommendation of training on ethics gets to the critical issue facing mediation training, namely that ethics training helps promote facilitative principles in the face of practices and competing theories that allow or even embrace evaluative perspectives within the practice of mediation. The emphasis on high standards for the trainers reflects the influential role that a trainer plays in gaining the respect of trainees and developing an environment conducive to excitement and engagement with the material (Maresh, 2000).

Role-plays are part of a simulation approach to instruction. Gibbons, McConkie, Seo, and Wiley (2009) explain as a precondition for using simulations that they must be used in the "training of integrated skills that consist of multiple judgments, decisions, and actions that take place in a fluid sequence in response to changing circumstances" (p. 172). The learning and practice goal in a simulation is to adapt action to a dynamic problem-solving need (Gibbons et al., 2009). The use of role-play activities in training are supported in the theory and research of experiential learning. Kolb (1984) describes a cyclical model of the experiential learning process in four phases: concrete experience, reflective observation on the experience, abstract conceptualization based on the experience and reflection, and active experimentation to test out the concepts derived from the previous phases. Van Ments (1989) explains role-play as asking

someone to imagine themselves in a particular situation and to behave exactly as they feel that person would in order to test out their repertoire of behaviors and study the interactive behaviors of the group. The activity of role-play focuses on the interaction of people to incorporate knowledge, skills, and attitudes into an experiential learning situation.

According to Maier (2002) role-plays should be designed based on whether the goals of the activity address knowledge, skills, or attitudes. If knowledge acquisition is the goal, role-plays can be valuable more as case study activities wherein they are observed and then discussed. In a knowledge acquisition role-play, the experience of the participants in the role-paly is less important than the observer's opportunity to understand and assimilate information. For skills acquisition, having many opportunities to enact skills and get feedback is most important. For development of attitudes and changes in affect, Maier (2002) emphasized that role-plays need to be loosely structured to allow participants to experience situations spontaneously.

Ferber (2002) reported on a study using adult theory and simulations in law education, and studies involving role-play and simulations are frequent in the medical field, like the ones conducted by Mamede and Schmidt (2004), and Nestel and Tierney (2007). The guidelines emerging from the Nestel and Tierney (2007) study support the best practices promoted by Raines et al., (2010) and include fidelity of roles to the real-world practice, and the importance of feedback and social interactions for learning. Students reported that key aspects of helpful role-plays were opportunities for observation, rehearsal and discussion, realistic roles and alignment of roles with other aspects of the curriculum (Nestel & Tierney, 2007). Silberman (1998) advised that observation be considered an active experience for participations.

Case study activities involve the observation of a video demonstration, or the presentation of a case in writing, followed by extensive analysis of the application of knowledge,

skills, and attitudes in the case. Case studies are a form of problem-based learning in which participants are given details about a situation (Savery, 2009). Participants are then asked to analyze the situation using the application of their learning from the training. This process involves Merrill's (2002) principles of activation of relevant knowledge or experience, as well as the principles of demonstration and application.

Silberman (1998) considered the observations made in watching video cases to be active opportunities for learning. Trainers can facilitate active learning while observing cases being enacted by providing participants with questions to guide observation and structured feedback at the end through group discussion (Hedeen et al., 2010). The analogical case study is a specific activity that encourages transfer of learning. McAdoo and Manwaring (2009) reported that studying and comparing multiple cases encourages the development of problem-solving skills and transfer of learning.

The role-play provides not only the concrete experience of Kolb's (1984) experiential learning process, but has the potential to lead the participant through all four phases. Reflective observation on the experience can happen both during the experience as well as after the experience. Schön (1983) provided a foundational theoretical description of the way in which reflection can occur in the professional's development of competency and continued growth through practice in the terms reflection-in-action and reflection-on-action. Reflection-in-action is the process of thinking about what one is doing while doing it, which can affect the result of our actions (Schön, 1983). Reflection-on-action is the more familiar concept of reflecting on an experience after the fact. Following Kolb's (1984) model while considering Schön's (1983) ideas on reflection, participants in a role-play could reflect on the process even while it is happening, form concepts based on those observations, and actively experiment during the role-

play with those dynamic concepts that form in the midst of the action. However, the bulk of the reflection in mediation training comes from the debriefing exercises after the role-plays (Hedeen et al., 2010).

The three universal principles for experiential learning, found in Lindsey and Berger (2009), are framing the experience, activating the experience, and reflecting on the experience. The debriefing exercises in mediation training enact the reflection component that seeks to understand what happened, what was learned, and how to apply such learning in the future. The debriefing activity most resembles Schön's (1983) reflection-on-action. The process of reflection itself is quite complex. Boyd and Fales (1983) describes reflective learning as a process of internally examining an issue of concern, triggered by an experience, which in turn creates and clarifies meaning for the self and results in a changed perspective. Boyd and Fales's (1983) description mirrors the Kolb (1984) experiential process. Atkins and Murphy (1993) recognize in their review of literature on reflection that both cognitive and affective skills are necessary to engage in reflection, and include self-awareness, description, critical analysis, synthesis, and evaluation (p. 1190).

Lieberman, Foux-Levy, and Segal (2005) conducted a study of mediation training in Israel and concluded that practical experience is indispensable in mediation training and must be accompanied with self-reflective work that allows mediators to focus on what was done well and what could have been improved in their session. Findings from this study also revealed that trainers indicated that mediators had difficulty being objective about their abilities, particularly in the areas of neutrality and empathy. This finding supported the position in Schreier (2002) on emotional intelligence in mediation training. Consequently, debriefing as an activity that

involves peers and trainers in giving feedback is a necessary corollary to a trainee's own reflection (White & Agne, 2009).

Although feedback from a coach is often given during a role-play in mediation training, this only happens when participants in the role-play are at an impasse or the coach feels the direction of the role-play is not productive and parties need re-direction. A study by Van Hasselt, Romano, and Vecchi (2008) described situations in which positive results were found when feedback was given in the midst of role-play activity. The most important feedback component of a role-play, however, generally happens in the debriefing that follows. Role-plays are most effective in increasing student learning when combined with immediate opportunities for reflection and feedback (Williams, Farmer, & Manwaring, 2008). Debriefing facilitates participants' ability to relate their training experiences to future practice (Fanning & Gaba, 2007). Debriefing is described by Morrison and Meliza (1999) as the after action review process and can be used for performance improvement and performance assessment, as well as self-reflection on the performer's part. Shute (2007) emphasized that feedback in debriefing sessions be direct, specific, and constructive, clearly identifying gaps in knowledge and skills. Rudolph, Simon, Dufresne, and Raemer (2006) proposed a model of debriefing that uses "good judgment" and avoids judgmental statements that could make the participants feel unsafe. Part of the role of trainers in adult learning contexts is to help participants feel safe in the environment in which they are to explore new roles and behaviors (Knowles, 1990). The role of the facilitators of role-play and debriefing activities is critical to help participants make sense of their experiences and provide the feedback to recognize what was done well, what can be improved, and to help participants reflect on the action to inform future behaviors (Schön, 1987).

Role of trainers and coaches. Raines et al., (2010) and White and Agene's (2009) study indicated that the experience of trainers and coaches is important in mediation training, particularly when providing feedback in role-play and debriefing exercises. The trainer may also play the role of a coach during training exercises, but the roles of trainers and coaches are different. The role of the trainer in mediation is to lead and guide instruction, but the role of the coach is that of someone with expertise helping novices understand how to respond in conflict resolution settings (White & Agne, 2009). In mediation training, role-play without a competent and experienced coach leaves the participants to their own devices and does not provide the necessary guidance. In two separate studies, Raider, Coleman, and Gerson (2006) and Zwiebel, Goldstein, Manwaring, and Marks (2008) found that learners need additional coaching and support to internalize new conflict resolution skills. During role-plays, the coaches serve as a safety net to provide feedback and support if participants feel unable to move forward, or if the direction participants are moving in is one that can lead them astray from the purposes and learning objectives of the role-play. Coaches generally have a specific set of competencies and skills to look for while observing, and share their observations at the end of the role-play. The conversation after the role-play also involves other participants in the enactment. Their feedback in terms of how it felt as a party can be very instructive to the trainee playing the part of the mediator. Generally role-plays are done in groups of three or four, with one person playing the part of the mediator, two individuals playing the part of the parties, and the fourth trainee serving as an additional observer. Feedback comes during the role-play as needed by the participants and as deemed necessary by the coach. After the role-play is completed, a debriefing is conducted with the small group, and a full debrief of the larger class is done to share experiences among the various groups. White and Agne (2009) reported on a study on the practices of

coaches during mediator training and found that coaching is a powerful tool for mediator training, but often feedback is not as direct as it could be to help novice trainees develop more fully. Recommendations from the White and Agne (2009) study were for coaches to provide more modeling and help trainees practice *how* to say things and enact aspects of the mediator's role in an experiential learning context.

Promoting perspective change in ethics training. Raines et al., (2010) emphasized the importance of ethics training as one of their key findings. They found that grievances brought against mediators in the state of Florida were similar to cases in other states, as found in a study by Young (2006). Raines et al., (2010) reported patterns in the complaints, indicating that the main problem reflected instances in which mediators "strayed from the facilitative model of mediation by giving improper advice and/or pressuring one or both parties toward a particular settlement" (p. 548). The Raines et al., (2010) study recommended that mediation training focus on ethics in an interactive way, not through didactic lecture and reading of the rules, reflecting stakeholders in the study who felt participants in mediation training needed to apply ethics rules to realistic scenarios through small-group discussion exercises or role-plays (p. 549).

The emphasis on promoting a facilitative perspective in applying the ethics guidelines is the most intangible of the learning goals in mediation training. The intangible nature of this learning goal relates to the unresolved debate in the field of mediation concerning how to evaluate mediators and ensure quality standards through training programs. There is no agreement on core competencies and assessments to determine the competency level of a mediator (Hedeen et al., 2010). However, many in the field such as Barton, Raines, and Hedeen (2008) and Hinshaw and Wissler (2005) agree that just knowing the rules does not guarantee that they will be enacted in the course of a live mediation.

The learning goal of promoting a facilitative perspective is a change in attitude, or an affective change. Bednar and Levie (1993) recommended three approaches when designing instruction for attitude change: "providing a persuasive message; modeling and reinforcing appropriate behavior; and inducing dissonance between the cognitive, affective, and behavioral components of the attitude" (p. 286). Inducing dissonance or the experience of a disorienting dilemma is a critical aspect of transformative learning theory for perspective change (Mezirow, 1991).

Transformative Learning

Transformative learning involves the process of effecting a change in a frame of reference, which is defined as a structure of assumptions, through which we understand our experiences (Cranton, 1994, 1996; Mezirow, 1991, 1995, 1996). According to Mezirow (1997), the process of transformative learning involves "transforming frames of reference through critical reflection on assumptions, validating contested beliefs through discourse, taking action on one's reflective insight, and critically assessing it" (p. 11). Mezirow (1997), Cranton (2006), and King (2011) identify critical reflection, awareness of frames of reference, and participation in group discourse as key pedagogical tools for transformative learning. Specifically, role play activities, simulations, debriefing, and small group discussions are a few instructional strategies associated with transformative learning. Transformative learning theory most readily addresses perspective change within adult education, and is particularly suited to apply to training in which adult learners may need to undergo significant perspective change to adopt the mindset of a mediation perspective.

Brookfield (1986) and Knowles (1990) established the basic tenets of adult learning theory known as andragogy. Andragogy refers to a set of core adult learning principles that apply to all adult learning situations, including the:

1. Learner's need to know

2. Self-concept of the learner

3. Prior experience of the learner

4. Learner's readiness to learn

5. Learner's orientation to learning

6. Learner's motivation to learn (Knowles, Holton, & Swanson, 2011).

These basic tenets of adult learning have been elaborated upon since by a number of contemporary scholars in adult learning literature such as Cranton (1994, 2006), King (1998, 2011), and Mezirow (1991, 1997). Cranton (1994) proposed the same distinguishing characteristics of adult learning, which match characteristics of mediation training as well, including being voluntary, self-directed, practical, and participatory. According to Taylor (2007) and other adult education scholars such as Cranton and Hoggan (2012), and Grabov (1997), the theory of transformative learning developed most extensively by Mezirow's (1991, 1995, 1997), has encroached and possibly displaced andragogy as the dominant paradigm in the field to become the epistemology that defines adult learning (Mezirow, 2003).

Transformative learning theory identifies the most significant learning as arising from critical reflection on premises about oneself (Taylor, 2001). Mezirow (1991) argued that the following phases have been identified through empirical studies as supporting critical self-reflection that can lead to a transformative learning experience: a disorienting dilemma; a critical assessment of assumptions; recognition that one's discontent and the process of transformation

are shared by others who have negotiated a similar change; exploring new roles, relationships, and actions; planning a course of action; acquiring knowledge and skills for implementing one's plans; building competence and self-confidence in new roles and relationships; reintegration of the new perspective into one's life. These ten stages reflect the four main components of experience, critical reflection, reflective discourse, and action.

Mezirow and Associates (2000) defined reflective discourse as a specialized use of dialogue devoted to searching for a common understanding and assessment of the justification of an interpretation or belief (p. 10). The use of reflective discourse entails assessing the evidence and arguments of a point of view or issue by being open to alternative points of view, beliefs, perspectives, and then reflecting critically on the new information. This critical reflection then allows for a new or transformed understanding of the original issue or belief. Mezirow (1997), Cranton (2006), and King (2011) identified critical reflection, awareness of frames of reference, and participation in group discourse as key pedagogical tools for transformative learning. Specifically, role-play activities, simulations, debriefing, and small group discussions are a few instructional strategies associated with transformative learning. Transformative learning theory most readily addresses perspective change within adult education, and is particularly suited to apply to training in which adult learners may need to undergo significant perspective change to adopt the mindset of a mediation perspective. Challenges in using transformative learning theory as a lens to investigate perspective change will be discussed after details on the learning activities associated with best practices of mediation are further elaborated.

In a study focused on the transformative learning potential in executive coaching, Gray (2006) emphasized the importance of reflection in stages involving the support of expert facilitators. The findings of Gray's (2006) study was that while the outcomes of reflection could

range from clarification of an issue, the development of a new skill, or the resolution of a

problem, the benefits of reflection were lost if they were not linked back into action. This

position reflects a key component of transformative learning theory as articulated by Mezirow

(1991), namely acting from the newly acquired perspective. Gray (2006), following positions

promoted by Cranton (1992), recommended transformative learning theory as a powerful tool for

coaches to promote the action required after the critical reflection that can lead to a new

perspective.

According to Calkins (2011), the change a lawyer must undergo to practice mediation

"requires a transformation of the mindset of counsel acting as mediator from advocate to

peacemaker" (p. 32). A mediation mindset is defined as the perspective of a facilitative

mediator, and is mostly defined in the literature of alternative dispute resolution and law in

opposition to that of Riskin's (1982) lawyer's philosophical map, "which advances an analytical,

non-emotional, adversarial orientation to conflict resolution within the law" (Guthrie, 2001, p.

181). A properly oriented mediation perspective, "aims to restore parties toward one another, to

listen carefully, to help the parties communicate, to attend to emotions and relationship issues,

and to avoid opining based on law" (Guthrie, 2001, p. 149). Such a perspective understands and

approaches conflict in a way that is antithetical to mainstream understandings, particularly for

those who already have established opinions and approaches shaped by experience in the

litigious and adversarial court system (Calkins, 2011; Guthrie, 2001; McAdoo & Welsh, 2004).

Although the literature identifies the discrepancies between a litigation perspective and a

mediation perspective, it is not just lawyers who face challenges in adopting a mediation

perspective through training. LeBaron and Zumeta (2003) argue that cultural background of

individuals, along with the professional experience of mediation trainees factors into their

understanding of what conflict is and how mediation, as a practice of alternative dispute resolution, approaches conflict. One of the questions this research study asked was *how do participants' professional experiences prior to an initial mediation certification relate to their perspectives on conflict at the start of training?*

Although transformative learning theory provides a rich lens through which adult learning experiences can be explored, there is no consensus among scholars as to how or if it can be measured or even consistently identified (Cranton & Hoggan, 2012; Newman, 2012; Taylor, 2007). Newman (2012), in particular, argues that the lack of empirical evidence about how to consistently identify transformative learning suggests that it does not actually exist as a measurable phenomenon. Central to the premise of transformative learning is the lifelong nature of the change, which complicates any measurement or assessment of potential changes in perspective in short-term learning contexts. Concerns like these are similar to concerns with developing instruction to achieve affective learning goals. Martin and Briggs (1986), and Main (1992) identify one of the inhibiting factors to developing instructional design for affective learning goals such as perspective change to be the belief that such goals are so long ranging and intangible that time restrictions of instructional programs prevent the development and measurement of affective results. Therefore, research on how to identify and measure changes in affective learning in training that seeks to bring about changes in perspectives is needed.

Empirical studies using transformative learning theory as a central focus have been predominately descriptive and explanatory, using qualitative methodologies without quantifiable measurement (Taylor, 1998, 2007). Taylor's (2007) review of transformative learning studies from 1999–2005 reports that the qualitative designs have become more sophisticated and creative, "including longitudinal and mixed-method designs and the use of video and

photography" (p. 173). Cranton (2006) claims that the gathering of "objective experimental or scientific evidence" is "a methodology inappropriate to understanding transformative learning" (p. 191) and argues instead for a "broader definition of empirical—that which is derived from observation and experience" (p. 192). This position contrasts with Newman's (2012) claim that "stories prove nothing," (p. 40). However, a growing trend in transformative learning research is to work toward more quantifiable measures to validate transformative learning theories (Brock, 2010; Gunawardena, Carabajal, Frechette, Lindemann, & Jennings, 2006). The challenge still exists to determine effective ways to quantify transformative learning.

Brock's (2010) quantitative study reported on incidences of transformative learning and each of Mezirow and Associates' (2000) precursor steps as identified by undergraduate business students. A study like Brock's (2010) can inform the way instructional designers can think about aligning transformative learning goals and objectives with assessments. The results of Brock's (2010) study showed that the highest incident of reporting transformative learning was associated with the step of critical reflection, followed by the steps of disorienting dilemma and trying on new roles. Brock's (2010) study suggested that educational techniques that specifically encourage these three of the ten transformative precursor steps had the greatest likelihood for success: disorienting dilemma, trying on new social roles, and critical reflection on assumptions. However, Brock's (2010) study did not explore ways to best assess assumptions or perspectives prior to interventions to establish baselines against which to measure change.

The measurement goals of an instructional design are not generally found in transformative learning research. Gunawardena et al., (2006) attempted to address the discrepancy between the goals and objectives of instructional design and those of transformative learning and adult education. Gunawardena et al., (2006) used an instructional design model

based on socioconstructivist and sociocultural learning philosophies and distance education to create wisdom communities working under the assumption that such communities would foster transformative learning (p. 217). Even within the larger goal of facilitating transformative learning among participants, the Gunawardena et al., (2006) study relied on specific objectives to show engagement with the wisdom community as a marker for measurable objectives. Although the responsibility for transformative learning still rests with the learner, Gunawardena et al., (2006) used clear objectives with specific measurements for assessments, like a post-experience instrument for comparison of knowledge to a baseline data collection. However, this measurement did not achieve greater understanding of the subjective experience of participants by measuring affective learning. The challenge transformative learning studies face is the inability to empirically identify and measure changes that subjects may experience while maintaining the holistic humanistic component of experience.

Other attempts at measuring changes in an individual's perspective include surveys and instruments like King's (1998) Learning Activities Survey (LAS). However, survey instruments often use categories that the investigators impose on the responses (Smith, 2001; van Exel & de Graaf, 2005). The problem with such surveys and other Likert instruments is that the researcher determines the parameters of something that is unique for each individual and a personal, individualized experience of a subjective perspective (Brown, 1993). Therefore, an approach that addresses the subjective nature and allows participants to determine the framework for factors yields results more in line with the research goals of this study. The literature indicates that in the application of Q methodology, however, participants can reveal their perspective by imbuing their subjective meaning to statements (e.g., McKeown & Thomas, 1998; Smith, 2001). The current study employed a more holistic measurement using a methodology that combined

qualitative descriptive data with a quantitative factor analysis to identify perspective change of participants in mediation training.

Q Methodology

Q methodology was designed specifically to identify and quantify subjective perspectives. The main purpose of the analysis in Q methodology is to reveal subjective structures, attitudes, and perspectives from the standpoint of the person or persons being observed (Brown, 1980, 1996). Stephenson (1935, 1953), a pioneer in Q methodology, saw an excess of reductionism within psychological and social science research and was interested in what made the individual person unique rather than what characteristics could be found across large populations of individuals (1935). Q methodology is based on beliefs about holism and multiple constructed realities, focusing on the study of subjectivity (including perceptions and experiences) as it is manifested in attitudes and behaviors. It has a unique method of data collection that combines quantitative and qualitative measures, using the techniques of statistical analysis while simultaneously allowing for flexibility in the analysis of data reflective of qualitative techniques. The data collection involves the Q sort, and the analysis takes the sorting information in quantitative and qualitative form for analysis. Brown (1993) highlighted the qualitative aspects of the methodology by comparing the quantitative aspects in Q methodology: "the fact that the resulting data are also amenable to numerical treatment opens the door to the possibility of clarity in understanding through the detection of connections which unaided perception might pass over. In Q methodology, the role of mathematics is quite subdued and serves primarily to prepare the data to reveal their structure" (p. 107). Even within the statistical processes, Q methodology supports the use of judgmental and theoretical exploration of the data to develop a more accurate and robust picture of the whole, thereby providing a scientific

approach for studying subjectivity while retaining the depth, diversity, and individuality of a more humanistic approach (Brown, 1980; Ellingsen, Størksen, & Stephens, 2010). The scientific approach supports the systematic nature of instructional design, while the humanistic approach supports the essence of facilitative mediation.

Q methodology is widely used in fields where revealing subjectivity is the aim, particularly in the social sciences including health sciences (Akhtar-Danesh, Baumann, & Cordingley, 2008; Stenner, Cooper, & Skevington, 2003; Cross, 2005), psychology research (Shemmings, 2006), mass communication and journalism (Giannoulis, Botetzagias, & Skanavis, 2010; Popovich, Masse, & Pitts, 2003), education studies (Ernest, 2011; Ramlo, McConnell, Duan, & Moore, 2008), and environmental policy (Addams & Proops, 2000; Webler, Danielson, & Tuler, 2009). Even in the variety of applications, there are two basic design types of Q methodological work, namely single-participant designs, and multiple participant designs.

The participant doing the Q sort in single participant designs is the subject. Emergent Q sorts can reveal a great deal about a variety of issues related to self-perspectives (Goldstein & Goldstein, 2005; Watts & Stenner, 2012). Single participant designs usually employ a number of different conditions of instruction with the individual to create multiple Q sorts that provide a more holistic view of perspectives held by the individual (Brown, 1991). The logic of single participant designs can be used to measure a person's responses to the same Q set over time in a repeated measures design as in the studies conducted by Freie (1997), Pelletier, Kraak, McCullum, Uusitalo, & Rich (1999), and Wilson (2007). The current study required a design relevant for multiple participants.

Multiple participant designs comprise the bulk of Q method studies, and work to reveal a series of shared perspectives pertaining to the topic of study. Such Q method studies are best

suited to explore the specific perspectives of a specific set of people, or the viewpoints found within specific institutions (Watts & Stenner, 2012). The most common Q method studies involve multiple participants engaged in a single sort to reveal factors that define shared perspectives (e.g., Baker, Thompson, & Mannion, 2006; Gruber, 2011).

A variant on either the single participant or multiple participant study is the repeated measures design. Although the bulk of Q methodology studies focus on the exploratory analysis of operant subjectivities at a single point and time, there is a body of work with Q methodology that explores experimental and quasi-experimental repeated measure designs from which this study draws its structure. The use of Q methodology to explore the perspectives of the same group of participants over time has been explored since 1975 by Cook, Scioli, and Brown. Cook et al., (1975) sought to improve the analysis of attitude change through an experimental design using Q methodology, including a control set and an experimental set that was administered the same Q set before and after an intervention. From this, other studies using quasi-experimental designs have been conducted with Q as the central method of analysis, including Davies and Hodges (2012) in a longitudinal study of shifting environmental perspectives; Gaebler-Uhring (2003) in a study exploring uses of Q methodology in health care to assess affective learning outcomes; and Popovich, Masse, and Pitts (2003) in a study assessing an intervention in higher education. Watts and Stenner (2012) point out that although Q methodology is not a test of difference, the perspectives of two different groups can be compared after the initial analyses of each group have been completed independently using theoretical and statistical comparisons of each group and individual members between times. A second-order Q analysis can be conducted with the results from each group serving as the inputs. Because changes in perspective are generally not significant in such a study (Pelletier et al., 1999), Expositor (1992) explained how

to determine whether a change of loadings within a factor is significant to reveal salient differences interesting to such research studies.

      Q methodology utilizes some unique terminology specific to its techniques. The terms most often associated with the development of the instrument used in Q methodology are defined in Figure 5.

Term	Definition
Concourse	the flow of communicability surrounding any topic in the ordinary conversation, commentary, and discourse of everyday life
Q set	a set of stimulus items (usually statements) derived from the concourse and provided for ranking according to a personal and subjective response to the condition of instruction
Source: Naturalistic	stimulus items developed from oral or written communication such as interviews conducted specifically for the development of the Q set
Quasi-naturalistic	stimulus items developed from secondary sources external to the study including interviews from people who will not conduct the Q sort, and literature related to the topic
Ready made	stimulus items created from sources other than communications regarding the concourse, usually drawn from conventional rating scales or otherwise standardized sets of data
Structure: Unstructured	considers the subject of the concourse as a single whole and attempts to create a representative sample in relation to the whole without necessarily covering all areas of the concourse
Structured	breaks down the subject of the concourse into a series of component sub-themes or issues, often around a theoretical framework that can be deductive or inductive, promoting theory testing
P set	participant group
Condition of instruction	instruction that sets the context for how participants are to consider each statement when sorting the Q set on the response grid
Q sort	the process where participants take part in a Q methodology study; involves the participant modeling his or her point of view by rank ordering the statements along a continuum, defined by a condition of instruction

Figure 5. Key terminology in Q methodology. From Brown (1993), McKeown and Thomas (1988), and Watts and Stenner (2012).

Difference Between Q and R

Q and R methodologies both employ factor analysis techniques, but have some key

differences that must be understood in order to correctly conduct and interpret a study employing

Q method. The main differences concern the nature of what each method measures, the way in which meaning is derived from those measurements, and the overall goals of each method.

What Q and R Measure? R methodology is based on the *r* from Karl Pearson's correlation statistic known as *Pearson's r* and studies relationships between variables or traits. In R research, respondents are subjects and questions are variables, whereas in Q research, Q statements are the subject of study and the Q sorts completed by a participant as a whole are the variables. R factor analysis involves finding correlations between variables and R scores express individual differences for various traits (Watts & Stenner, 2012). In contrast, Q factor analysis looks for correlations between subjects across a sample of variables. Because Q analysis involves factoring by rows the same matrix that is traditionally factored by columns, Q is often mistakenly characterized as a mere transposition of a traditional factor analysis matrix (Brown, 1980). Fundamentally, Q methodology utilizes a by-person factor analysis resulting in factors that reflect differences within subjects, whereas R methodology utilizes a by-variable factor analysis that reflects differences between variables mapped at the population level. Q methodology is Stephenson's solution to the lack of R methodology to define specific individuals in a holistic fashion to compare individual differences (Stephenson, 1953; Watts & Stenner, 2012). Respondents in a Q study are required to consider an entire domain of statements before ordering their version of the domain, which is quite different from R factorial studies that assume respondents respond to each item independently of other items in the domain (Wingreen & Lomerson, 2009). Therefore, Q analyses finds patterns in belief structures and perspectives in a more holistic way.

Meaning of Measurements in Q and R. In R methodology, the development of scales and instruments are generally based on *a priori* determinations, whereas in Q methodology, the

aim of meaning derived from instruments is intended to be developed *a posteriori* through interpretation (Brown, 1980). Watts and Stenner (2012) describe this shift in emphasis as a distinction between methods of expression and methods of impression (Beebe-Center, 1932; Brown, 1980). In conventional R psychometric scales and measures, items are developed because they help to express a particular preconceived meaning, and so they are methods of *expression*. Although in the Q method, items are often developed to reflect a theory or preconceived factors, and the items actually provide participants with a medium to impress their own meanings and viewpoints, making Q a methodology of *impression* (Watts & Stenner, 2012). Stephenson (1977) termed factors from Q as measuring *operant* subjectivity because their emergence was in no way dependent upon effects built into the measuring device. For this reason, any *a priori* meaning of statements does not have to enter into the Q sorter's consideration when sorting because participants are expected to inject statements with their own understanding. Wingreen and Lomerson (2009) explain that in contrast to r-factorial methods which typically require the respondents be tested according to the researcher's *a priori* 'big picture' of the domain, Q methodology requires respondents to consider the 'big picture' *before* arranging their own subjective version of the picture.

Goals of Q and R. A dominant goal of R methodology is to compare different individuals in relation to specific variables in order to make generalizations across a population. The dominant goal of a Q sort analysis is not to generalize but rather to explore, to elicit hypotheses, and to illuminate viewpoints. Stephenson (1936) made the distinction between R's goal of breaking wholes into parts according to traits with Q's goal of keeping parts together in their interrelation (Brown, 1997). This means that P-sets become more interesting if they are not homogenous but show some diversity. The emphasis in Q is on modeling viewpoints, whether

they belong to one, two, or more people; therefore, the number of subjects is not critical for establishing scientific validity. Other issues of validity separate the two methodologies as well.

Validity in a Q sort is based on the participants' experience more so than the researcher's preparation. According to Wigger and Mrtek (1994), the validity of a Q method study can be threatened if the subjects do not have a clear understanding of what they are expected to do, or if they feel they cannot adequately represent their own perspective with a given set of statements and sorting instructions. Therefore, pilot testing looks for potential problems with participants' understanding of the statements and the process of executing the Q sort.

Phases in Q

Brown (1980) identified five steps to implement the procedures of Stephenson's (1953) Q technique that aligns with similar structures found in Q methodological studies (e.g., Previte, Pini, & Halsam-McKenzie, 2007; van Exel & de Graaf, 2005). The steps include:

1. Identifying a concourse

2. Developing the Q set

3. Specifying the P set

4. Administering the Q sort

5. Conducting data analysis.

Figure 6 takes those five steps, adds to it the final holistic interpretation that involves quantitative and qualitative data analysis, and categorizes the process into three phases that specify the data collection phase, the data analysis phase, and the holistic interpretation phase.
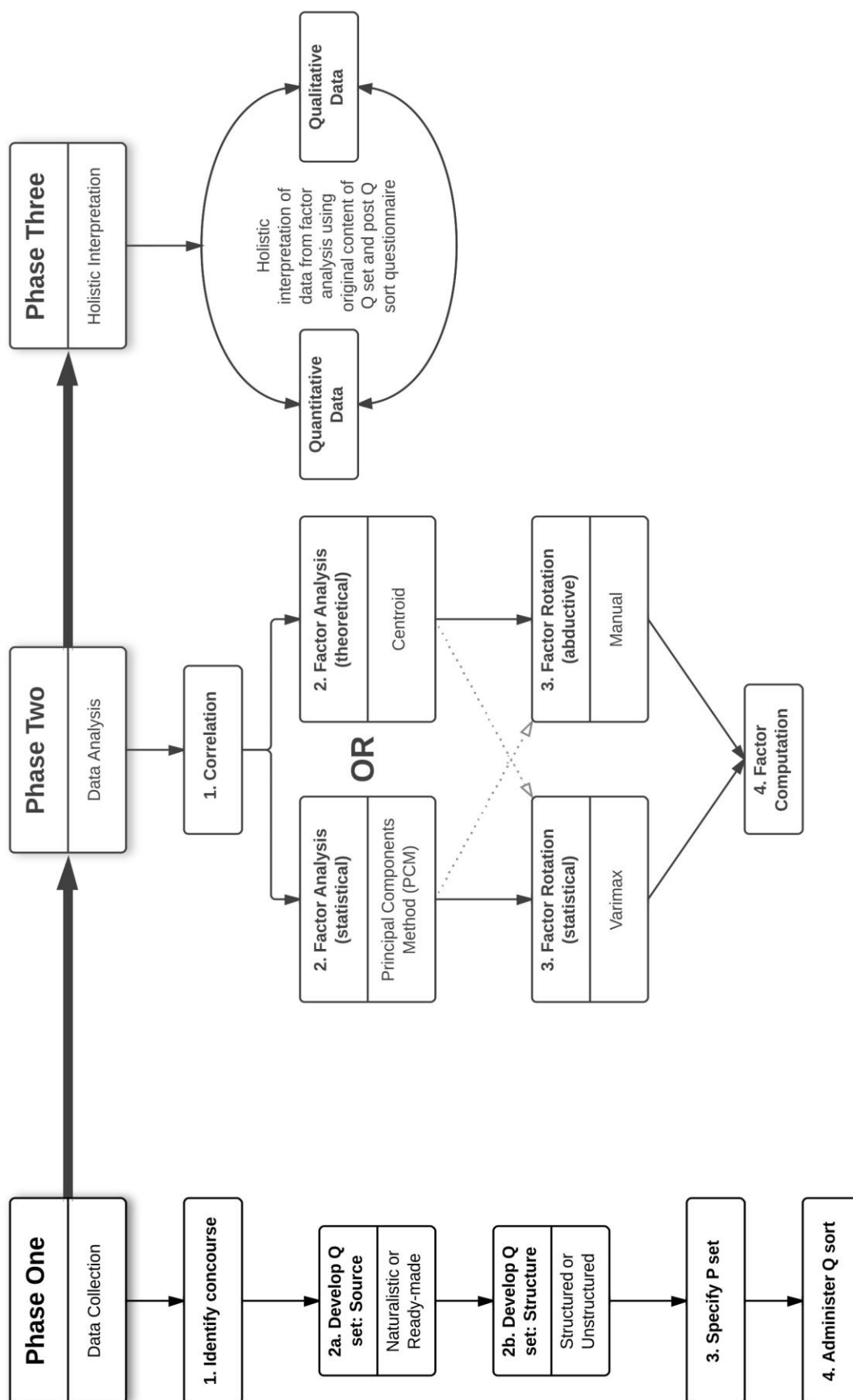
Figure 6. Phases in Q diagram.

Phase One: Data collection.   Q methodology has unique procedures for data collection and analysis and involves the creation of an instrument specific to the research questions under study. Administering the instrument is referred to as conducting a Q sort. During the data collection phase, the concourse is identified, the Q set developed, the P set specified, and the Q sort administered (Figure 7).
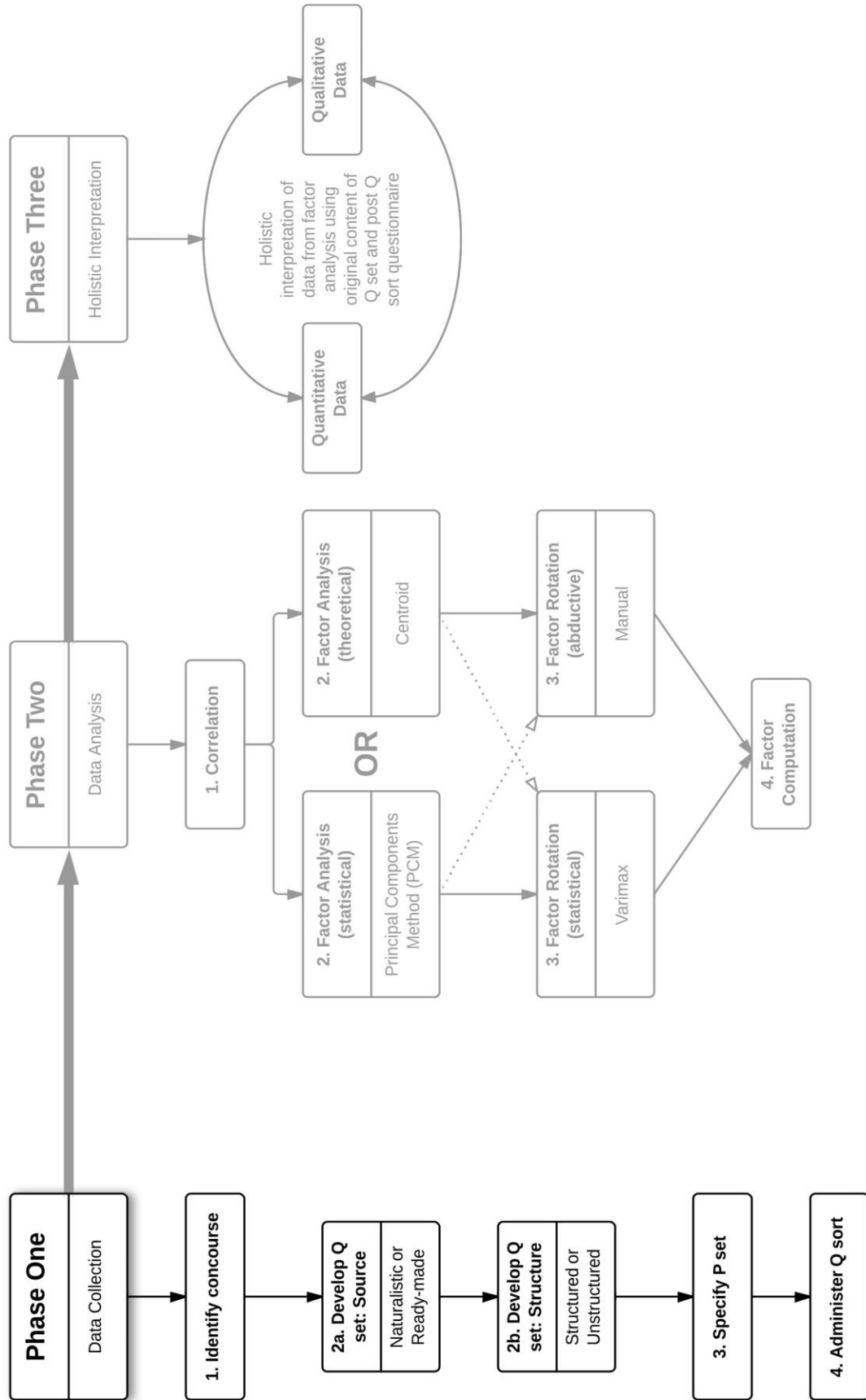
Figure 7. Phase one: Data collection in phases in Q diagram.

Identify concourse. The first step in Q methodology is to develop the concourse. Stephenson explores and explains concourse theory in a variety of indeterminate ways in his writings (e.g., Stephenson, 1977, 1982, 1993/1994), but methodologically as it is practiced in Q, the concourse is the flow of communicability surrounding any topic in the ordinary conversation, commentary and discourse of everyday life (Watts & Stenner, 2012). The concourse consists of the breadth of possible opinions regarding the subjective topic in question, and becomes the overall population of statements from which the final Q set is taken (Brown, 1993). The nature of the concourse generally becomes clear only after specific research questions are framed for a specific study (Watts & Stenner, 2012). Stephenson (1993/1994) argues that the development of the concourse is guided by two principles, namely that the concourse is approached on a *prima facie* basis that can encompass any statement from the concourse, and only subjective or self-referential statements should be included.

Develop Q set. The Q set consists of representative statements from the concourse, and should offer a full range of statements from the concourse as they relate to the research question under investigation. While developing the Q set, the research questions should drive the development of the condition of instructions for the sorting of the Q set (Watts & Stenner, 2012). The condition of instruction is the command that enables respondents to construct tangible representations of their subjective positions (Barbosa, Willoughby, Rosenberg, & Mrtek, 2008). The condition of instruction is a statement that sets the context for how respondents are to consider the Q set, and reflects a specific time period, situation, or persons that the researcher wants respondents to think about as they complete the sort (Barbosa et al., 2008).

The Q set will be the actual statements that participants sort in order to produce the factors that define the perspectives in the study. Accordingly, the effectiveness of a Q study

depends upon appropriate sampling of the propositions, which generally is determined by the

actual responses of participants in the study. As Cross (2005) explains, "People can tell a story

only if they have the appropriate statements to tell it," (p. 212). The content validity of the Q set

is usually established through expert advice (Watts & Stenner, 2012; Wigger & Mrtek, 1994).

However, content validity for each statement in the Q set is generally a nonessential issue

(Brown, 1980). Because content validity of single statements are only derived from their rank

order placement and vicinity to other statements as determined by subjects conducting the Q sort,

statement meaning is based on the holistic context of the entire sort, not the researcher's *a priori*

meaning given to statements beforehand (Wigger & Mrtek, 1994).

Although there is no rule that statements should be standardized in length and

presentation, it is important that participants are responding to the content of an item and that

they are not distracted by issues of length or presentation (Watts & Stenner, 2012). There are

some general guidelines about wording of statements, including avoiding technical or overly

complicated terminology, avoiding items with two or more propositions or qualifications, and

avoiding unnecessary negatively expressed items that could produce double negative responses

(Watts & Stenner, 2012).   It is advised, however, to use closely related items when the goal is to

ascertain nuances of responses (McKeown & Thomas, 1988). Domain experts are recommended

to help establish the validity of statements as representative of the concourse, either from a

theoretically structured perspective or a holistic and unstructured representation of the concourse

(McKeown & Thomas, 1988). However, in situations where domain experts cannot agree on

how close or separate certain statements are, it is recommended to keep both in the Q set and

allow piloting to help determine if there are redundancies (Aktar-Danesh et al., 2008).

Much like other aspects of developing the Q set, the required number of Q statements is not governed by a hard and fast rule. Watts and Stenner (2012) suggest that the final Q set will be determined by the subject matter. Recommendations for the number of statements in a Q sort range from 20 to 100 (Dennis, 1992; Watts & Stenner, 2005). Curt (1994), and Stainton-Rogers (1995) support the idea that between 40 and 80 items is a good rule of thumb. Cross (2005) argues that Q studies can be conducted with as few as 10 statements because participants have the opportunity to express their point of view. Although large Q samples have been used effectively, repeated studies have shown that the number of factors resulting from the analyses do not change with the use of smaller Q sets, if the Q set represents all of the ideas necessary to answer the research questions (Barbosa et al., 2008). Consideration should also be made for the time it will take for participants to complete the sort (McKeown & Thomas, 1988).

Q set source. The statements in the Q set can be naturalistic, meaning they are developed from oral or written communication such as interviews conducted specifically for the development of the Q set; quasi-naturalistic, meaning they are developed from secondary sources external to the study, including interviews from people who are not involved in the Q sort, as well as literature related to the topic; or ready-made, meaning they are created from conventional rating scales or otherwise standardized sets of data (Watts & Stenner, 2012).

Q set structure. The development of the Q set can follow a structured or unstructured model. Unstructured Q sets attempt to create a more representative sample of the whole concourse without necessarily sampling evenly or thoroughly from all areas of the concourse (Watts & Stenner, 2012). Q sets that are structured break down the subject of the concourse into a series of component sub-themes or issues, often around a theoretical framework which can be deductive or inductive, promoting theory testing. Structuring statements allows the researcher to

be explicit about a theoretical position. Therefore, a structured Q set provides a focus for a

researcher's best starting guess, placing initial boundaries on the range of phenomena of interest

(Brown, 1980). However, a theoretically structured Q set does not preclude participants from

rendering their own perspectives; Q method not only allows for but even encourages different

subjects to interpret the same statements differently because the important information is what

meanings the participants derive from the statements (Brown, 1980). Whether a Q set is

structured or unstructured, when condensing the concourse into a more manageable size the goal

of the researcher should be to clarify statements and reduce ambiguity while still providing

participants the flexibility of interpretation (i.e., subjective rather than objective statements), and

to eliminate repetition of ideas. In this study, a theoretical understanding of conflict resolution

based on the dominant perspectives of adversarial, evaluative, and facilitative emerged from the

concourse and guided the development of the Q set. The selection fits the criteria indicated by

Webler et al., (2009) that statements should directly address the general issues that the study is

meant to illuminate, namely perspectives on conflict in the practice of mediation as it is

influenced by lawyers and the courts.

     Specify P set. The P set is the participant group conducting the Q sort. In R

methodology, the participants generally represent population samples, but in Q methodology, it

is the statements that come from a population of possible statements in the concourse. The

participants are the variables. Consequently, the P set is best understood as a set of people

theoretically relevant to the problem of the study. When determining the participants for a Q sort

study, McKeown and Thomas (1988) explained that "the major concern is not with how many

people believe such and such, but with why and how they believe what they do" (p. 45). Brown

(1980) emphasized that a minimum requirement of participants is whatever number provides the

study with "enough subjects to establish the existence of a factor for purposes of comparing one factor with another (p. 192).   The key to determining the P set is to understand that what is most important is not the number of participants but the representation of different perspectives related to the theme of the study. Unlike in traditional R methodology, random selection of participants is not recommended, nor is opportunity sampling (Brown, 1980). Instead, P set selection for Q methodology requires more purposeful selection to reflect participants whose perspectives matter in relation to the subject at hand. Large numbers are not required and are even discouraged as they tend to produce redundancies when interpreting factors (Brown, 1980). Because Q method is primarily concerned with the exploration of meaning and quality, there is no interest in large numbers of participants that will allow generalizations to a population (Willig & Stainton-Rogers, 2008). Brown (1980) explains that Q methodology aims to establish the existence of particular viewpoints to understand, explicate, and compare them. In this study, the P set of students enrolled in the mediation training course is purposeful because they are individuals relevant to the study's purpose. Given that the research questions concern the perception of conflict resolution for individuals showing interest in entering the mediation field by enrolling in a general mediation course, the P set consists of all participants enrolled in the course serving as the context of the study.

Administer Q sort. The Q sort itself is where participant perception data is gathered. Before a Q sort can be rank ordered by participants, three decisions must be made by the researcher regarding the nature and the characteristics of the distribution:

1. Forced-choice or free distribution

2. The numbering and naming of the distribution

3. The range and slope of the distribution.

Stephenson and Burt (1939), and Stephenson (1988/1989) advocated the benefits of fixed- or

force-choice distributions fitting a normal curve, so this distribution has become a standard for

many Q studies (Watts & Stenner, 2012). Brown (1980), however, has presented a number of

statistical comparisons to demonstrate that distribution effects are negligible. Therefore, Watts

and Stenner (2012) described the choice of distribution is as irrelevant to the factors that emerge

in a study, since the patterns within the distributions are what matter. However, choices do

impact participants' experience of the Q sort (van Exel & de Graaf, 2005; Watts & Stenner,

2012). This study used a forced-choice distribution, numbering and naming of the distribution

to support strong feelings on each end of the distribution, and a range and slope to support the

specific audience of the training.

Forced or free distributions. Fixed-choice distributions force participants to think more

intentionally about their choices and perhaps provide more thoughtful responses as they must

prioritize the placement of statements in their final sort. Although reason would suggest that a

free distribution gives participants more freedom, the structure of a forced-distribution not only

provokes deeper engagement with the statements, but it eliminates the need to consider the

distribution aspects in favor of focusing on the content of the statements (Brown, 1980). What a

free-distribution allows for, theoretically, is a clearer picture of where participants rank

statements on the continuum since they have free range to place statements on either end of the

rating scale rather than having a specified number of *most disagree* or *most agree* spots for their

statements. However, there is a solution to designing the Q sort experience to reap the benefits

of the fixed distribution and the advantage of the free distribution, from the perspective of the

researcher. Since Q sorts that follow the standard instruction pattern of provisional sorting

categories by asking participants to pre-sort their statements into three piles reflecting those

statements that they disagree with, agree with, and have neutral feelings toward, one solution is to make a further request of participants to record the number of statements that they place in these "first pass" initial piles before they go on to think more specifically for each pile and sort onto the grid. Doing so provides the researcher with an indication of how a free distribution sort might fall out in terms of how participants initially felt about their preliminary placement, revealing the extent of feeling for each category. Another strategy for the researcher would be to ask participants to draw a line on the forced-distribution grid reflecting their positive, neutral, and negative provisional sorts (Watts & Stenner, 2012). The key to this aspect of the Q sort is ascertaining what the overall sort means to the participants, not the researcher. By asking participants to indicate the numerical distribution of the provisional sort, this study gains information that would be sought after in the free-distribution, while maintaining the advantages of a forced distribution.

Numbering. The preferred numbering of the distribution is a near-normal, symmetrical distribution numbered from a positive value at one end, through zero, to the equivalent negative value at the other end (+5 to -5 with 0 in the middle, for example) (Watts & Stenner, 2012). Preferred numbering allows the mean ranking to fall at 0, which is significant not because it indicates neutrality, but because it provides a center from and around which positive and negative meanings extend. The numbering is related to the number of statements in the Q set and decisions of range and slope of the distribution.

Naming. The wording applied to the dimensions along with items that must be sorted should indicate extremes on both ends. Rather than having *most agree* to *least agree*, the better option is to have *most agree* to *most disagree*, or a similar structure that represents the "most" of the feeling on that end of the continuum (Watts & Stenner, 2012). Each end of the ranking is

intended to capture strong feelings, both positive and negative, with items of low importance falling in the middle of the distribution, or the neutral zone of the grid. Brown (1980) provided general guidelines for the range of distributions related to the number of statements in the Q set, suggesting a nine-point (-4 to +4) distribution for 40 items or less, an 11-point (-5 to +5 distribution for 40-60 items, and a 13-point (-6 to +6) distribution for sets of 60+ items.

Shape. The slope of the distribution, or its kurtosis, varies depending on whether the Q sort is fixed or free, and the question under investigation. Although normal distributions are the most common, grids can also be rectangular or U shaped. Van Exel and de Graaf (2005) suggested using a steeper distribution in studies where knowledge about the subject was expected to be low in order to leave more room for indecisiveness in the middle of the distribution, and, in contrast, suggested flatter distributions for studies in which respondents are expected to have more formed opinions on the subject to provide more room for strong variance in agreement. Watts and Stenner (2012) added that platykurtic or flattened distributions are most useful in studies with more straightforward topics whereas more complex topics would benefit from a leptokurtic or steeper distributions. However, Brown (1985) contended that participants may violate the distribution of the Q sort without having an impact on the quality of the data as he insisted that the shape of the distribution is statistically inconsequential (Brown, 1980).

Administering the Q sort involves two activities for participants, namely rank ordering the Q set along a grid, and providing post-sorting information in the form of an interview or questionnaire. The focus in most Q studies is generally on the sorting activity as it is this portion that provides the quantitative data for analysis. In the post-sorting activity, participants reflect on their sort and have the opportunity to make their choices operant by providing their explanations of the meaning they imbued statements with, which Brown (1980) identified "as an important

step often overlooked in Q studies" (p. 200). The qualitative data obtained from the post-sorting,

allows for a more robust data analysis. The post-sorting data collected in this study was in the

form of a questionnaire that asked for clarification on the rationale participants had for their

extreme selections (*most agree* and *most disagree*), as well as feedback on any statements they

found problematic and any statements they thought were missing to reflect their perspective

(Appendix C).

Phase Two: Data analysis. The second phase of Q methodology involves quantitative

data analysis of the Q sort. The post-sorting reflection creates qualitative data that is critical to

the holistic interpretation of the Q sort experience. The quantitative data analysis can be done by

hand, but rarely is due to the development of dedicated computer programs designed specifically

to process quantitative Q sort data. A few computer software packages like IBM SPSS support

statistical analyses, but they are designed to support R analyses, not the peculiarities of a Q

analysis. Specifically, there is no dedicated application in SPSS for calculating the factor arrays

used in Q methodology to facilitate factor interpretation (Watts & Stenner, 2012). Therefore,

using a software package specifically developed for Q methodology is recommended, like the

free download of PQMethod, version 2.20 for Windows developed by Schmolck (2002).

Schmolck's (2002) statistical program allows Q sort data to be input as they are collected, as

piles of statement numbers. It conducts the analysis by allowing a choice of centroid or principle

component method factor analysis and then allows the resulting factors to be rotated either

analytically through a varimax rotation, or judgmentally with the aid of two-dimensional plots.

After relevant factors are selected, the final analysis step produces an extensive report with tables

indicating factor loadings, statement factor scores, distinguishing statements for each of the

factors, and consensus statements across factors (Schmolck, 2002). Distinguishing and

consensus statements are critical to the qualitative analysis portion of the methodology.   Figure

8 highlights the steps in phase two.
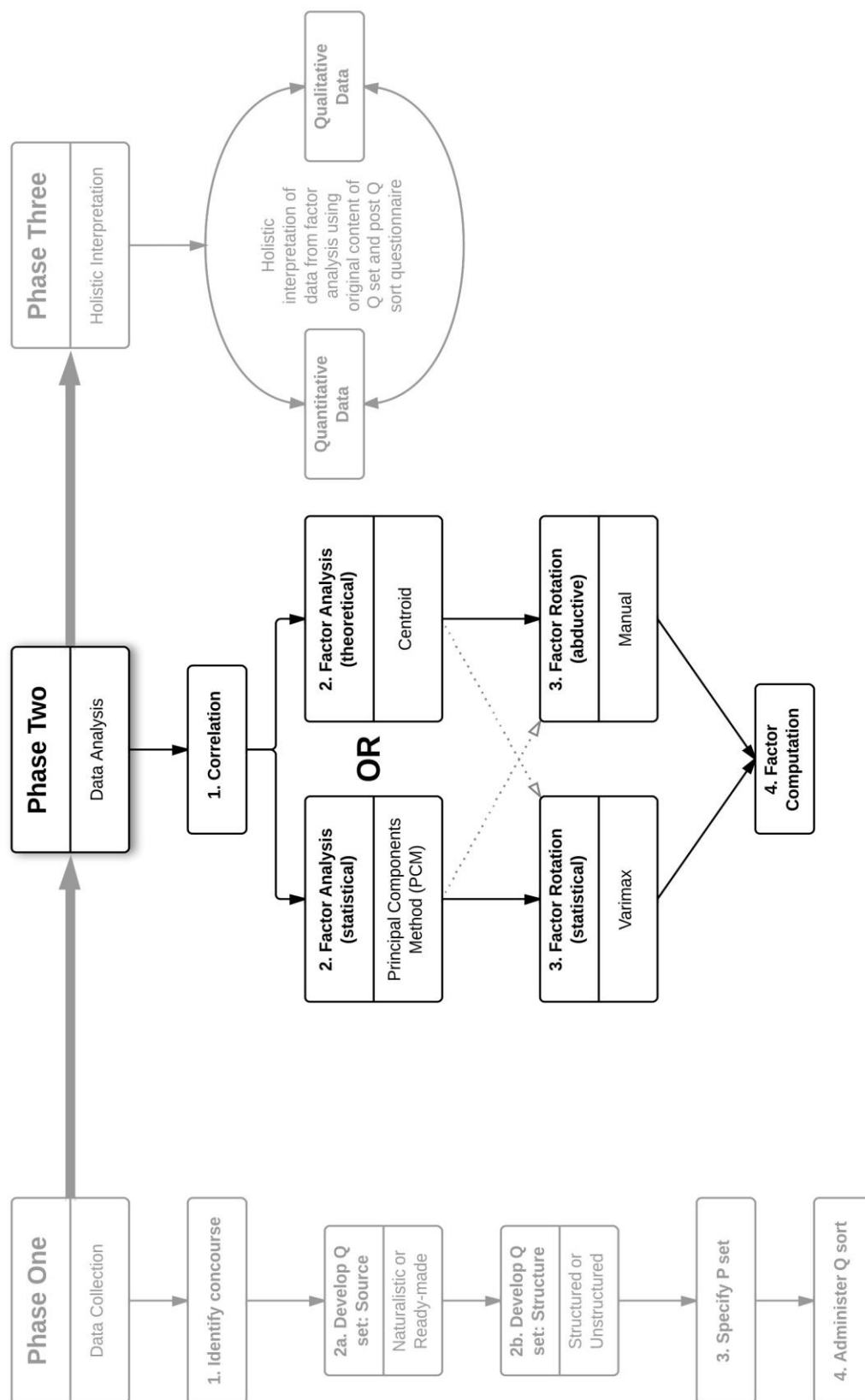
Figure 8. Phase two: Data analysis in phases in Q diagram.

Correlation. As data is entered into a dedicated Q method analysis program, participants become column headings with the statements forming the rows. This allows for a by-person factor analysis in the second stage of analysis. Brown (1991) referred to the correlation matrix as a way through with the data must pass on the way to revealing their factor structure. Each participant's numerical data is intercorrelated to identify which participants sorted the statements into similar orders (McKeown & Thomas, 1988). The resulting correlation matrix represents the level of agreement or disagreement between the individual Q sorts (van Exel & de Graaf, 2005) by showing the extent to which each Q sort is correlated or uncorrelated in term of significant or insignificant loadings.

Factor analysis. A factor represents a cluster of respondents whose Q sorts were statistically similar. The goal of the factor analysis is to identify underlying factors that summarize the patterns of correlation. According to McKeown and Thomas (1988), "factorization simplifies the interpretive task substantially, bringing to attention the typological nature of audience segments on any given subjective issue," (p. 50). There are two methods of determining factors prior to the rotation stage of analysis: principle components method (PCM) and centroid analysis. The PCM uses mathematically precise factoring systems with the aim of maximizing variance on the final factorial solution (McKeown & Thomas, 1988). PCM produces a "best-fit" solution based on the numbers, but not the context in which the numbers were produced. The centroid analysis, however, focuses on the commonality among Q sorts, which create the context, instead of the specificity of individual sorts. PCM focuses on both commonality and specificity to reach a mathematical solution (Webler, Danielson, & Tuler, 2009). According to Brown (1997), Stephenson recommended using the centroid method for the same reason others suggested abandoning it for the more precise principle components method.

Stephenson (1982) recommended centroid factor analysis because its indeterminacy is compatible with the theoretical underpinnings of Q methodology and, at the rotational stage, with interbehavioral principles. In general, PCM and centroid tend to provide fairly similar results, but some studies benefit from the more theoretical nature of the centroid method over the statistically rigid principle components method. The centroid method allows the researcher greater room for exploration.

Factor extraction. The process for determining the number of factors extracted and retained in a final solution generally begins with factor analysis, but does not always end there. When conducting the factor analysis, Brown (1980) recommends starting factor extraction with "the magic number 7" with the understanding that this will begin to provide the information necessary to see if more or less factors should be explored (p. 223). Watts and Stenner (2012) provide more detailed suggestions as a starting point for factor extraction, suggesting that a study with less than 12 Q sorts might start with two factors, moving up to the suggestion of seven factors for a study with greater than 36 Q sorts.   However, Watts and Stenner (2012) also identify their recommendations as "ballpark" guidelines (p. 197). Once factors are extracted and the choice of criterion is made based on the previous explanations, the resulting solutions are explored.

There is disagreement in the filed over what criteria are best used to determine the number of factors in a Q method study. The statistical goal of extracting factors is to account for the greatest number of sorts in the fewest number of factors, and to eliminate confounded sorts. Confounded sorts are participant Q sorts that load with statistical significance on more than one factor (Watts & Stenner, 2010). Eigenvalues, also known as the *Kaiser-Guttman* criterion (Guttman, 1954; Kaiser, 1960, 1970), and significant loadings or Humphrey's rule are the main

statistical criteria used to determine the number of factors to extract from a study (Brown, 1980; Watts & Stenner, 2012).   The *Kaiser-Guttman* criterion indicates that eigenvalues of one or greater for each factor identified in the unrotated matrix after sorts have been correlated is often used for determining the number of factors to be extracted for rotation. However, Brown (1980) warns that automatic adherence to this criterion my limit the investigator to observing fewer than the number of potential significant factors. Because eigenvalues are calculated as a sum of the squared loadings of a factor, they are affected by the number of variables included in the study and is therefore capable of producing what Brown (1980) calls "spurious factors" when there are more participants or leaving behind sizable residuals and significant factors when there are fewer participants (p. 222).

Two other related statistical criteria used to determine how many factors should be extracted in a study relate to the number of sorts that load onto the factors. The first is to accept factors that reveal two or more significant loadings after the factor analysis. Significant loadings at the 0.01 level are calculated using the following equation (Brown, 1980: 222–3): 2.58 x $(1/\sqrt{number\ of\ items\ in\ Q\ set})$. The second method is Humphrey's rule, which indicates that a factors is significant if "the cross-product of its two highest loadings (ignore the sign) exceeds twice the standard error" (Brown, 1980, p. 223), with the standard error calculated as follows: $1/\sqrt{number\ of\ items\ in\ Q\ set}$). Brown (1980) also indicated that a less stringent application of Humphrey's rule could be used in which the cross-products of the two highest loadings are simply more than the standard error.

According to Brown (1980) and Watts and Stenner (2012), multiple solutions are generally explored using abductive reasoning rather than relying on statistical criteria alone. For example, a scree test, another method involving eigenvalues, can also be used to determine the

cut-off point for factor extraction, but only in the context of PCA (Watts and Stenner, 2012). However, Ramlo and Neuman (2011) explained that unlike R-factor analysis, Q methodologists are typically uninterested in scree plots and other eigenvalue-based criterion to determine factor structures. Instead, Ramlo and Neuman (2011) suggest that Q methodologists typically determine factor structures by exploring a variety of solutions before moving forward with any one statistically based solution. Factor rotation is another aspect of the Q methodology analysis that can be impact by the theoretical goals in a study and thereby impact the number of factors extracted.

Factor rotation. Factors are rotated to optimize the separation between factors by changing not the relationship between Q sorts but the vantage point from which they are viewed (van Exel & de Graaf, 2005). As there are two factor analysis options, there are also two factor rotation options: statistical and theoretical. Theoretical or judgmental rotations allow researchers to probe the data for possible explanations to theoretical positions or hypotheses related to the study. The theoretical goals of defining factors are dependent on the nature of the study; not every study will have theoretical goals for defining factors. For example, the study by Kramer, de Hegedus, and Gravina (2003) had a theoretical goal of comparing the perspectives of one group with another within a Q method study. Both sets of participants were given the same Q sort activity.   When the uncorrelated matrix revealed similarities in clusters of the loadings for the group Kramer et al., (2003) wanted to use for comparison with the other sorts, the researchers utilized judgmental rotations to explore that theoretical aspect of the study. In their study of dairy farmers and program planners, Kramer et al., (2003) used theoretical rotations to keep program planners on the same factor to illuminate the differences in perspectives between program planners and dairy farmers. Brown (1980) noted that this kind of theoretical exploration is one of

the strengths of Q methodology, but that it might make audiences who are committed to the statistical certainty of R methodology uncomfortable or even skeptical. To this concern, Brown (1996) reiterated that data cannot be changed through rotation, but rather that judgmental rotation allowed the researcher to look at the data from different vantage points to determine what view best explains the data for the purposes of the specific research goals.

A varimax rotation, or statistical option, is often advised as the first choice of rotation in order to simplify the interpretation of factors. Varimax rotations use statistical methods to identify simple structures that maximize the similarities within factors and the differences between them (orthogonality) (Brown, 1980). Varimax rotation does not allow for the exploration of intuitive hypotheses. However, varimax rotation can be followed by manual adjustments (Watts & Stenner, 2012). Brown (1980) promotes the "abductory possibilities" in the judgmental or manual rotation process (p. 230). Manual rotation allows the researcher to explore the physical positions occupied by the various Q sorts to discover unanticipated relationships.

The choice of rotation depends on the nature of the study. Brown (1980) advocates for the use of manual or judgmental rotation in Q method studies because it highlights the researcher's interest in the substantive reality of the participants in the study over the adherence to statistical procedures to determine meaning. Brown and Robyn (2004) provided a clear explanation of justifications for using judgmental rotation, but recognized that this method is rarely used even among researchers who "frequently employ Q methodology and openly espouse its principles" (p. 104). The reason seems to be that the subjective nature of manual rotation causes journal reviewers accustomed to statistical reliability to be suspect of the subjective nature of this procedure (Watts & Stenner, 2012). Another reason is that it requires a good bit of

skill on the part of the researcher to see patterns in the loadings and make manual rotations meaningful. However, Watts and Stenner (2012) pointed out that having fewer participants helps to see patterns that can make manual rotations a very effective choice. The main reason to use manual rotation of the factors include exploring a factor solution that includes a participant or group of participants in the minority whose viewpoint may be critical to the questions in the study (van Exel and de Graaf, 2005). The varimax rotation generally follows the choice of PCM analysis, although manual rotation can be chosen after a PCM analysis. The centroid factor analysis generally is followed by a manual rotation, but choosing varimax then following with judgmental rotation can help to produce relevant results (Watts & Stenner, 2005).

Factor computation. Factor scores are calculated after factor analysis and rotations are completed. Factor scores are normalized weighted average statement scores of respondents that define the factor (van Exel & de Graaf, 2005). These factor scores are merged to create factor arrays, or model Q sorts representing what hypothetical respondents with a 100% loading on that factor would have ordered (Watts & Stenner, 2012). Related to these model Q sorts, statistically significant statements are identified as distinguishing or consensus statements, indicating statements with statistically different placements between factors and those with consistently similar placements, respectively. The number of distinguishing factors reflects the number of factors retained for rotation whereas there is only one set of consensus statements. For example, if there were three factors in a solution, there would be a set of distinguishing statements for each factor, totaling three sets of distinguishing statements. In that same example, however, there would be only one set of consensus statements, because those statements are the ones that share consensus with all of the factors. The content of the distinguishing and consensus statements are pivotal for developing qualitative interpretations of the data. In addition, for each Q sort within a

factor, the statements placed in the top positive and the bottom negative positions, along with

any post-sort explanatory remarks, help develop the qualitative narrative for each factor.

Phase Three: Holistic Interpretation. Holistic interpretation (Figure 9) is achieved by

combining the statistical data analysis from the Q sort with the qualitative analysis of

distinguishing and consensus statements, along with participants' experiences as revealed in the

post Q sort interviews or questionnaire. Comparing the positioning of items and examining

different patterns guide the initial steps of interpretation.
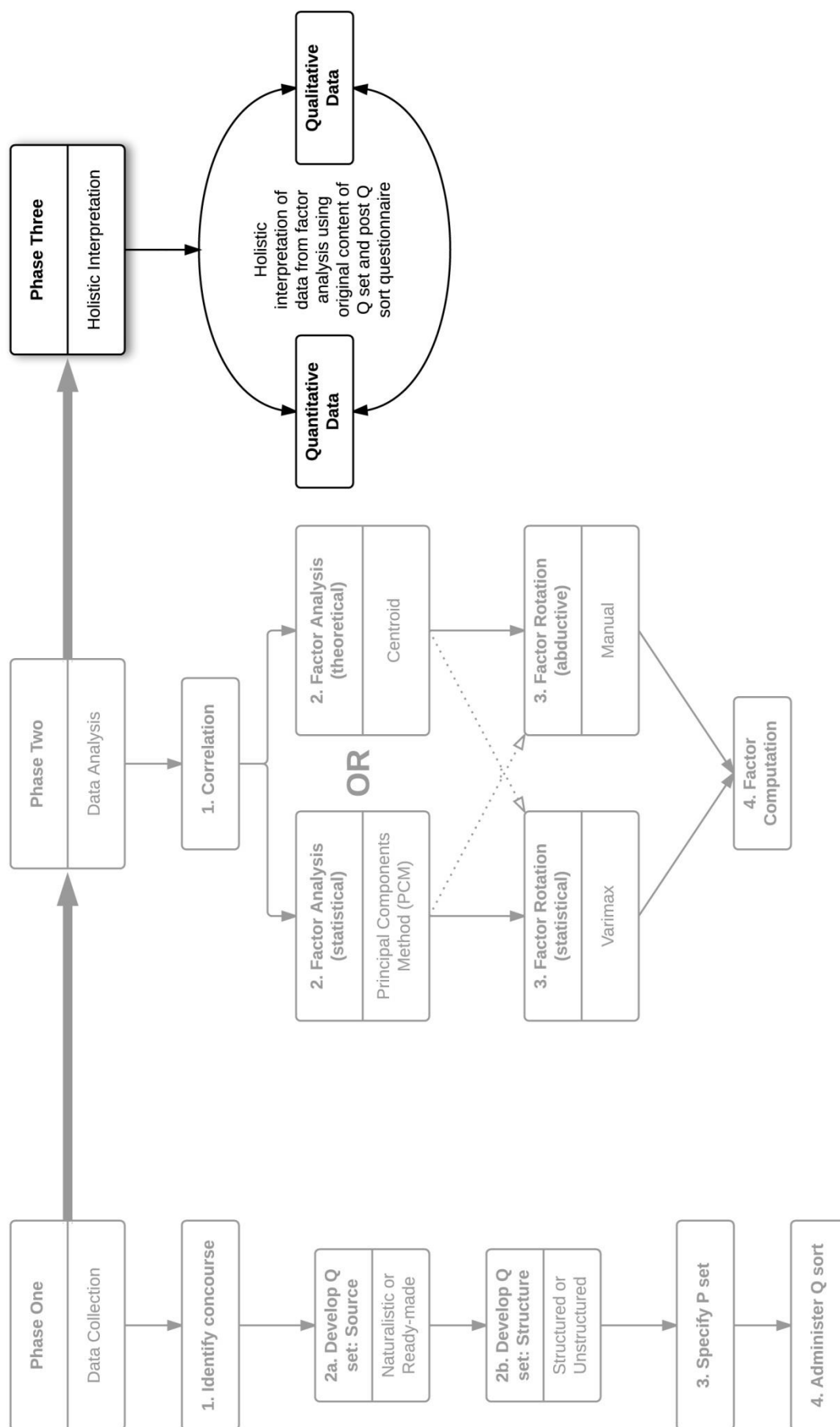
Figure 9. Phase three: Holistic interpretation in phases in Q diagram.

The explanations provided by participants in post Q sort data collection help explain the factor arrays and allow for the operant meaning of the Q sort activity to become clearer. Watts and Stenner (2012) suggest that a post Q sort questionnaire ask why the anchor statements were selected, and that the questionnaire provide opportunities for participant feedback on problematic statements or statements they felt were missing in order to adequately represent their perspective. Robbins and Kruger (2000), and Senn (1996) suggest that the use of interview data to aid in the interpretation of factor structures adds validity to the findings by further minimizing the error of interpretation.

Summary

Training that seeks to promote the affective learning goal of perspective change has an affinity with the goals of transformative learning, specifically the trying on of new roles through experiential learning, coupled with critical reflection. However, there is no consensus on how to identify and measure changes to perspectives within training contexts for two main reasons. First, the subjective nature of a perspective change resists empirical measurement, and second, the longitudinal nature of transformative learning is not conducive to the finite constraints of training. The current study sought to develop an instrument to obtain empirical measurements of perspective within the time constraints of a specific training. Mediation training presumes that a facilitative perspective toward conflict resolution can be taught. Identifying the perspectives that participants bring to the training is an important first step to ascertaining any change in perspectives that participants may experience at the end of training. Perspective change was the affective learning goal under investigation in this study. Training was the context in which the perspectives of those seeking the credential to practice mediation within the court system needed to be identified and, when necessary, changed to fit the requirements of practice. Transformative

learning was the primary theory that informed this study. Q methodology provided the data

collection and analysis procedures for this study.

CHAPTER 3:

METHODS

The purpose of this study was to analyze the perspectives of participants in a general

mediation course to ascertain the way they view conflict resolution at the start of training, and to

identify the nature of any changes in their perspective on conflict at the conclusion of their

training experience. This chapter describes the study participants, the environment in which data

was collected, data collection methods including the pilot study, instrument development, and

the processes used for data analysis.

Participants

The participants consisted of ten students between the ages of 24–65 with the majority of

participants in the age range of 35–55. Q studies do not require large numbers of participants

(Brown, 1980), and the number of participants in this stud fit within guidelines set forth by

Webler, Davidson, and Tuler (2009). All participants voluntarily enrolled in the training to learn

about mediation. There were no prerequisite education requirements of participants registering

for this training. There were no prerequisite job experiences that participants were required or

expected to bring into the training, although historically the training attracts participants with

experience in the legal field such as lawyers and judges. The assumption was that all

participants had previous experience with conflict in their lives and have an interest in helping

others resolve conflict through the practice of mediation. After participants completed their

registration for the course, they were emailed information about the study and a consent form,

and were provided with hard copies of the consent form on the first day of training.

Context

The study took place in an introductory general civil mediation training course at a facility approved by the Georgia Office of Dispute Resolution (ODR). The training was delivered in a face-to-face environment with one trainer and three additional coaches. The trainer led the course while the coaches facilitated role-play exercises and contributed to debriefing activities. The trainer had over 25 years of experience as both a mediator and a trainer of mediators. The coaches were chosen by the trainer for their experience and expertise in facilitating mediation role-play experiences. The training was conducted over two consecutive weekends (Thursday, Friday, and Saturday of the first weekend, and Friday and Saturday of the second weekend), totaling 40 hours, which included 28 hours of instruction and a 12-hour practicum. The course included case studies, simulations, and small group instruction, emphasizing role-play and debriefing activities. The practicum consisted of five video case study analyses, including extensive discussion and application of knowledge from the course to the cases under study.

Figure 10 depicts the agenda for the training in the current study. Blocks of time are color coded and provided with a symbol to distinguish the various instructional strategies used in the training, including direct instruction, role-play, debriefing, and case studies. Figures 11 and 12 follow and provide summaries of those instructional strategies, linking them to the purpose, rationale, and related studies that support their use in training.

	Day 1	Day 2	Day 3	Day 4	Day 5
1 hour	Defining Your Pre-Training Conflict Perspective	▲ Overview/Review ▲ Communication Skills	▲ Overview/Review	▲ Overview/Review ▲ Cultural Issues	● Video Case Study
2 hours	▲ Introductions/ Overview of Training	▲ Negotiation Skills	● Case Studies	▲ Court Processes, GODR	
3 hours	● Case Study (exemplar)		▲ Managing Emotions	▲ Q & A / Evaluation	● Video Case Study
4 hours	▲ ADR	■ Role Play #1 Opening Statement	■ Multiparty Mediation	**PRACTICUM**	
5 hours		▲ Debriefing	▲ Debriefing	● Video Case Study	● Video Case Study
	● Mediation Process	■ Role Play #2 Communication Skills	■ Role Play #3		
6 hours		▲ Debriefing	▲ Debriefing	● Video Case Study	▲ Debriefing
7 hours	■ Opening Statement Practice	▲ Agreement Writing	▲ Advocacy/ Marketing ■ Role Play #4		▲ Q & A / Evaluation
7.5 hours	▲ Debriefing	▲ Exercise	▲ Debriefing	▲ Debriefing	Defining Your Post-Training Conflict Perspective

Figure 10. Agenda for mediation training in current study.

Activities	Description	Purpose	Rationale	Example studies
▲ Direct Instruction	Short lectures, interactive discussion, practice activities, followed by instructor feedback.	To impart knowledge and skills, engage learners, allow learners to practice new knowledge and skills, and to get immediate feedback.	Supported by Huitt, Monetti, and Hummmel's (2009) transactional model of direct instruction; Merrill's (2002) activation principle and demonstration principle of instruction; various aspects of Knowles' (1990) assumptions about adult learners.	Dihoff, Brosvic, Epstein, and Cook (2004); Burke (2008)
■ Role-Play	Each trainee (10 total) serves as a mediator in at least one role-play, and serves as parties for peers in role-plays where they are in the role of mediator. The coaches provide real-time feedback when necessary, if a mediator is unsure of what to do next, or if the coach sees the direction of the role-play going awry and needs to intervene to get participants on a track that will promote learning.	To implement knowledge, skills, and attitudes presented in training. To react to authentic situations, respond to peers in the role-play, enacting the process of mediation along with the attitudes and skills presented in the training. To get real-time feedback in the moment from peers as they respond to participants in the role of mediator; to get real-time feedback from the coach and incorporate it into the role-play.	Supported by Kolb's (1984) experiential learning model. Follows the simulation approach to instruction (Gibbons, McConkie, Seo, & Wiley, 2009, Lindsey & Berger, 2009) involving reflection-in-action and reflection-on-action (Schön, 1983).	Ferber (2003); Mamede and Schmidt (2004); Nestel and Tierney (2007); Van Hasselt, Romano, and Vecchi (2008)

Figure 11. Part 1 of color-coded and symbol-coded summary of mediation agenda.

Activities	Description	Purpose	Rationale	Example studies
▲ Debriefing	Coaches provide detailed feedback to participants in the role of mediator. Peers provide feedback to mediator. Discussion involves all participants and gives the person having played the role of mediator a chance to reflect with the group about the performance.	To give and receive feedback from the coaches and peers; to engage in self-reflection; to engage in discussion to understand the behaviors exhibited and observed in the role-play. To make meaning from those discussions for enactment in future experiences.	Supported by principles in experiential learning (Kolb, 1984); reflection-on-action (Schön, 1983).	Fanning & Gaba (2007); Lieberman, Foux-Levy, and Segal (2005); White and Agne, (2009)
● Case Study	Involves observation of a video demonstration, or the presentation of a case in writing, followed by extensive analysis of the application of knowledge, skills, and attitudes in the case.	To observe principles of the training in action. To discuss and analyze how each case does or does not reflect the learning in the training. To raise issues relevant to understanding the complex interpretation and application of ethics rules to actual mediation cases.	Supported by Merrill's (2002) activation principle and demonstration principle of instruction; a type of project-based-learning (Savery, 2009); reflection-on-action (Schön, 1983).	McAdoo and Manwaring (2009); Hedeen, Raines, & Barton (2010)

Figure 12. Part 2 of color-coded and symbol-coded summary of mediation agenda.

Research Design

This study employed a repeated measures design with pre-intervention and post-intervention data collection from participants in a mediation training program. The mediation training was the intervention. Q methodology, involving sorting and by-person factor analysis, was used to study the complex structure of participants' perspectives before and after the intervention of mediation training. The variables under study were the factors of perspectives that the participants created in their collective sorting, and the changes in the perspectives of the individuals themselves. Because the variables did not involve specific traits to be studied across participants but rather the specific subjectivities of participants, both individual and collective, Q methodology was an appropriate technique for data collection and analysis. This study was approved by the Institutional Review Board (Appendix A). Each participant signed a consent form (Appendix B).

Data Collection Procedures

Data collection was conducted in four phases:

1. Phase 1: prior to the first training meeting

2. Phase 2: at the beginning of the first training meeting

3. Phase 3: at the end of training activities, and

4. Phase 4: at the end of the last training meeting (Figure 13).

The participants were emailed the pre-training questionnaire (Appendix C) after their registration process was complete as part of Phase 1. Participants were asked to send their answers in an email to the program coordinator before the first day of class to be used by the trainer as part of the training learner analysis. Data from of all of the participants who agreed to participate in the research study was shared by the trainer with the researcher.

	Timing	**Instrument**
Phase 1	Prior to first day of training	Pre-Training Questionnaire (Appendix C)
Phase 2	First activity on first day of training	Q sort (Appendix D)
Phase 3	Last activity on last day of training	Q sort (Appendix D)
Phase 4	At the end of the last day of training	Post-Training Questionnaire (Appendix E)

Figure 13. Phases of data collection.

The second phase of data collection involved conducting a Q sort as the first activity for participants on the first day of training. The third phase of data collection involved conducting a Q sort as the last activity for participants on the last day of training. The fourth phase of data collection involved participants completing the post-training questionnaire.

Data Collection Tools

Data was collected in Phase 1 using a questionnaire (Appendix C) provided electronically to participants prior to the start of training. Data was collected in phases 2 and 3 using a Q sort activity instrument consisting of 36 cards that were sorted in a forced Gaussian distribution on a Q sort mat designed specifically for this study, and a post-sort questionnaire (Appendix D). Phase 2 was administered as the first activity of training, and Phase 3 was administered as the last activity of training. Instructions for the Q sort activity were delivered in a four-minute video designed and developed specifically for this study. The transcript for the Phase 2 Q sort administration video is in Appendix F and the transcript for the Phase 3 Q sort administration is in Appendix G. In Phase, 4 data was collected in the form of a questionnaire administered at the end of training (Appendix E).

Pilot Studies

     Pilot study one. Two pilot studies were conducted in the fall of 2012 prior to data collection for the full study. The first pilot consisted of a convenience sample of 10 participants. Three participants had extensive experience with mediation, one had minimal, and the other six had no experience. Participants were not enrolled in a course and only tested the Q set and the usability of the Q sort data collection instrument. Revisions were made to the Q set and Q sort data collection instruments as a result of this first pilot. Regarding the Q set, two items were identified as being too broad and were modified in consultation with mediation experts. In addition, the Q sort data collection instruments were greatly modified. Two concerns were raised in the first pilot study regarding administration of the Q sort. One problem involved the instructions and another problem involved the materials.

     The instructions for the first pilot, developed from guidelines found in Watts and Stenner (2012), were perceived as disjointed, slightly confusing, and not interesting, per feedback from the participants and the trainer. Consequently, a video was designed and developed by the researcher that was concise, engaging, interesting, and clearly conveyed the instructions and purpose of the Q sort to participants. The instruction portion of the video was preceded by a cartoon-style video establishing the context of the pre-training sort. A similar animated video establishing the context of the post-training sort preceded the same instruction video, resulting in two different introductions for the main instructional video (see Appendix F and G for transcripts of the videos).

     The second problem involving the materials had to do with the quality and expectations of materials and activities in the context of the study. The first pilot Q sort consisted of the traditional materials associated with Q sort activities per Brown (1980), McKeown and Thomas,

(1998), and Watts and Stenner (2012), namely pen and paper, with a Q sort grid provided on regular 8.5 x 11 printer paper. The statements were printed on 2.2 x 1.5 squares of regular printer paper, and Watts and Stenner's (2012) claim that card stock for the statements was a superior choice over regular paper was confirmed. In addition to the need to change from regular printer paper to card stock for the Q set statement cards, a few critical concerns were identified in the first pilot including the following:

1. the trainees had an expectation of more quality materials based on being part of a fee based training,

2. the participants in the first pilot felt a sense of redundancy after arranging the sort and having to write the number in the space provided on the paper grid, and

3. post-sorting conversations were made difficult because participants only had the number on the paper grid to refer to and not the statements in order of their specific sort.

All three concerns were addressed in the second pilot by the design and development of a larger Q-Sort mat measuring 20 x 30 inches (Figure 14).

Figure 14. Q sort mat.

This specially designed Q sort mat contained the grid and condition of instruction, as well as a new technique for recording the sort on the grid by affixing the cards themselves to the Q sort mat, a technique that allowed participants to see the totality of their sort represented by the statements themselves rather than just numbers recorded on a grid. The new procedure of affixing the statement cards to the mat addressed the issue of redundancy identified in the second concern, as well as the difficulty of post-sorting conversations identified in the third concern. The Q sort mat provided starting point for the Q sort in the top left-hand corner of the mat (Figure 15).
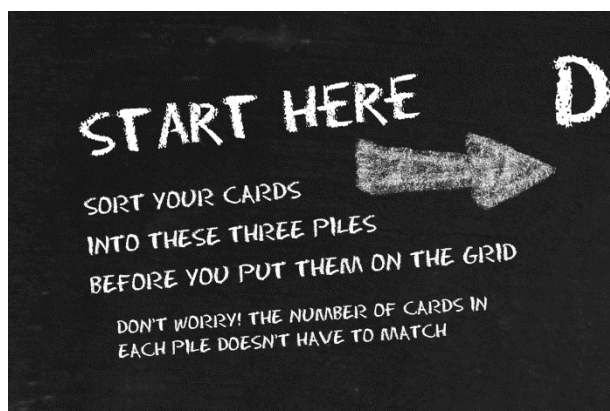
Figure 15. Enlarged top left section of Q sort mat with instructions on where to start.

The Q sort mat allowed participants to record the number of cards they sorted in the preliminary sort piles to add as an additional data point to compare between pre-sorts and post-sorts and provided a space for identifying the sorter in the bottom left corner. The condition of the sort was provided in the bottom right corner (Figure 16). The condition of the sort read as follows: "Imagine you have successfully completed your training and are now acting as a mediator helping others resolve conflict."
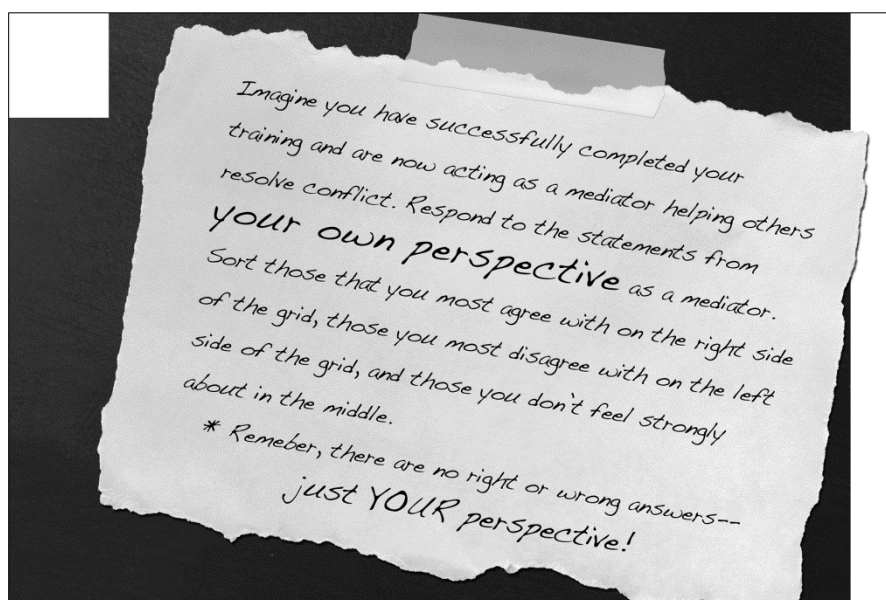
Figure 16. Enlarged bottom right section of Q sort mat with instructions containing conditions of the sort and reminders of the purpose and process of Q sort activity.

Following the condition of the sort were reminders of the purpose and process of the Q sort

activity: "Respond to the statements from your own perspective as a mediator. Sort those that

you most agree with on the right side of the grid, those you most disagree with on the left side of

the grid, and those you don't feel strongly about in the middle. *Remember, there are no right or

wrong answers—just YOUR perspective!" (Figure 16).

Pilot study two. The purpose of the second pilot study was to test the data collection

instruments revised from the first pilot study, reveal any issues with the research design, and

determine if the data collection procedures were appropriate to address the research questions of

the final study. The configuration of the room and space allocation for individuals needed to be

addressed because the revised instruments were significantly larger than the initial instruments.

Figure 14 is a picture of the room set up for the initial Q sort during the second pilot study. Each

participant had a separate table large enough to both hold the Q sort mat and give participants

enough room to comfortably complete the sorting activity and questionnaire. This room

configuration served as a model for the final study, since the revised instrumentation required

different space considerations in the training environment than the initial pilot.

Figure 17. The layout of the room for the initial Q sort activity during the second pilot study.

A laminated mat that contained a grid to accommodate the actual size of the cards was designed in order to eliminate the redundancy of writing the number of the statement on the grid after having completed the sort on a surface that was not the grid itself. This newly designed mat and printing of statements on higher quality card stock addressed the concern with the quality of materials. The concern over an extra step in recording the number of the sort was addressed by designing the cards themselves to have adhesive backing and to affix to the mat itself, thereby allowing participants to have an accurate visual display of their sort in the post-sort discussion. This solution, however, created other challenges, such as finding suitable materials to affix the statement cards to the mat.

The first iteration of testing the new instruments before conducting the second pilot study involved using Velcro with one side permanently affixed to the mat and the other to the statement cards. The Velcro solution was not ideal, because a key aspect of the Q sort activity is the participants' ability to move cards around before finalizing their sort, and the Velcro inhibited the free movement of cards on the grid. In addition, the strength of the Velcro was more than would encourage moving cards from one spot to the next, and the noise involved in separating the Velcro closures was such that it would be distracting to participants. The second iteration used double-sided adhesive with the backing still on the cards. Leaving the backing on the cards allowed participants to move the cards freely over the grid until the sort was finalized, and then remove the backing to affix the cards in their final placement on the grid. Although removing the backing was an extra step, it was determined to produce less feelings of redundancy on the part of participants than writing the statement numbers on the grid, and the benefit of having the actual statements in place on the grid for participants to reference after the sort was of great value (Figure 18).

Figure 18. A completed Q sort mat with statement cards sorted based on the choices made by a participant.

The method of using the revised Q sort mat to collect the actual statement cards from participants allowed the numbers to be recorded in a spread sheet by the researcher after the sort. This method eliminated the concern of potentially illegible participant handwriting, thereby adding greater accuracy to the process.

Q Sort Data Collection

The development of the Q sort data collection tools involved all four steps indicated in phase one of the Q methodology process overview (Figure 6). These steps included identifying the concourse, developing the Q set (source and structure), specifying the P set, and administering the Q sort.

Step 1: Identify the concourse. Stephenson (1986) defines the concourse as the communication of all possible aspects that might surround the topic of perspectives on conflict

resolution in a mediation context. For this study, the concourse was identified from a variety of sources, including:

1. semi-structured interviews with mediators who had experience in the field of law (interview data collected from a previous unpublished study conducted by the researcher),

2. literature review of sources regarding conflict resolution in the field of ADR and Law,

3. researcher's experience working in the context of mediation training as an instructional designer, and

4. researcher's experience as a participant in mediation training.

Semi-structured interviews were conducted with six mediation trainers who also had experience as lawyers. The semi-structured interviews solicited information regarding the mediators' experience in transitioning from the study and practice of law to the training and practice of mediation, and their perspectives on conflict resolution as a practicing mediator. Their responses were combined with perspectives on conflict resolution found in a literature review of sources in the field of ADR and Law, the reflections of the researcher from experience in working as an instructional designer for mediation training, and the experiences of the researcher as a participant in mediation training.

   Step 2: Develop the Q set. The Q set was developed from naturalistic and quasi-naturalistic sources and configured as a structured set of statements. The structure of the Q set drew from theoretical categories derived from literature on conflict resolution perspectives, specifically Riskin's (1996) grid identifying the role of the mediator as evaluative or facilitative and the approach of problem definition as narrow or broad. Furthermore, the category of adversarial was added to reflect the range of approaches to conflict resolution indicated in the

interviews and the literature. Using these categories was in keeping with Watts and Stenner's

(2012) suggestion that it is both "sensible and commonplace" to begin sampling for the Q set in

the literature (p. 60). Figure 16 lists the final statements indicating the source within the

framework of adversarial, evaluative, or facilitative, with an indication of narrow or broad if

applicable. All of these statements were derived from the concourse of communication

concerning the predominant perspectives on conflict resolution relevant to the practice of

mediation.

Statement #	Statement	Theoretical Category
1	Emotions get in the way of effective conflict resolution.	Evaluative Narrow
2	To solve a problem effectively, a mediator needs subject matter expertise.	Evaluative Narrow
3	Knowing the law is important to be an effective mediator.	Evaluative Narrow
4	A mediator should evaluate legal issues for parties if they need it.	Evaluative
5	The ability to build trust and rapport is important to be an effective mediator.	Facilitative
6	Mediators should encourage parties to see their problem from multiple viewpoints.	Facilitative Broad
7	Mediators should protect people's rights in the mediation process.	Narrow (Evaluative or Facilitative)
8	A successful mediation should end with a written agreement between parties.	Narrow (Facilitative or Evaluative)
9	It's important for a mediator to probe and find what the underlying concerns are for parties in conflict.	Facilitative Broad
10	It's important to tell parties the most likely outcome for their problem.	Evaluative
11	A mediator's ability to see the best answers for a problem is important.	Evaluative
12	Mediators should encourage parties to explore underlying emotions.	Facilitative Broad
13	Successful conflict resolution solves the problem between parties.	Narrow (Evaluative or Facilitative)
14	Agreements should address the immediate conflict as well as help prevent future conflict between the parties.	Facilitative Broad
15	It's important to tell parties the strengths and weaknesses of	Evaluative

	their positions.	
16	In mediation, the law is not as relevant as underlying issues.	Facilitative
17	It's important to understand cultural differences parties may have when resolving conflict.	Facilitative
18	It's important to have parties express their values behind their positions.	Facilitative Broad
19	Parties shouldn't reveal too much to each other or they will weaken their position.	Adversarial
20	The mediator should help parties stay focused on the facts.	Evaluative
21	Mediators should help parties recognize their own biases and triggers in the conflict resolution process.	Facilitative Broad
22	The final agreement in mediation should focus on the stated conflict.	Evaluative Narrow
23	Mediators should let parties know who they think has the better argument.	Evaluative
24	It's important for a mediator to distinguish between what is legal and what is right.	Evaluative or Facilitative
25	Mediators should encourage parties to ask for more than they expect in anticipation of compromise.	Adversarial
26	An important role of the mediator is to balance the power between parties.	Facilitative
27	It's important for a mediator to help parties think of creative solutions for their problems.	Facilitative
28	Education helps you solve problems better.	Facilitative or Evaluative
29	It's important for a mediator to help parties understand their legal rights.	Evaluative
30	Mediators should encourage parties to compromise in order to reach an agreement.	Adversarial or Evaluative
31	Winning is important.	Adversarial
32	It's important to help parties agree on what the problem really is and not rely on the facts of the complaint.	Facilitative
33	People in conflict need a strong hand to guide them.	Adversarial or Evaluative
34	In analyzing problems, there is usually a right and a wrong response.	Adversarial or Evaluative
35	Parties need to be provided with a clear process to resolve their conflict.	Evaluative or Facilitative
36	My ability to guide parties to find their own answers is important.	Facilitative

Figure 19. Q set statements and theoretical categories.

The statements were not directly taken from either the interviews or the literature, but are composites of the major perspectives represented in those sources. These designations were confirmed in consultation with three practicing mediation trainers who also have a background and experience in the legal profession, thus serving as subject matter experts. Although consensus was reached concerning what theoretical perspective to assign each statement, the subject matter experts agreed that any of the statements could be interpreted to fall into a number of categories, based on the subjective understanding of the context and meaning of the statement. This was evidence of a successful set of statements, as Watts and Stenner (2012) noted, "An effective Q set item will always invite (or provoke!) a range of qualitatively different reactions and it will differentiate among Q sorters on that basis," (p. 65). As Webler, Danielson, and Tuler, (2009) explained, it is not only acceptable but preferable for Q statements to have "excess meaning" so that they can be interpreted differently by different people, while still remaining relevant to the topic under investigation (p. 16).

The range and distribution of the Q set was determined in conjunction with the number of statements. Keeping within the wide-ranging guidelines of between 20 to 100 statements (Cross, 2005), 36 statements were chosen based on coverage of the key conceptual ideas in the concourse and the ratio of the number of statements to participants and expected perspectives obtained in the study as recommended by Webler et al., (2009). Adding to Brown's (1980) recommendation that there be at least two people associated with a factor to identify it as a perspective, Webler et al., (2009) provided the guidelines in Figure 20 to suggest how to decide on the number of statements in a Q set, based on a minimum of three people per perspective.

Choosing the Number of Q Participants	
Minimum	Maximum
2 perspectives x 3 people = 6	1:3 – 30 Q statements = 10
3 perspectives x 3 people = 9	1:3 – 36 Q statements = 12
4 perspectives x 3 people = 12	1:3 – 42 Q statements = 14
5 perspectives x 3 people = 15	1:3 – 45 Q statements = 15

Figure 20. Computing the number of participants in a Q sort. From Webler, Danielson, and Tuler (2009, p. 22).

Webler et al., (2009) explained that a ratio of 1:2 or 1:3 between variables and observations within a study was desirable, with variables being the participants and observations being the Q statements. Based on the theoretical development of the structured Q set, it was predicted that at least two and possibly up to five perspectives might emerge that could include facilitative broad, facilitative narrow, evaluative broad, evaluative narrow, and adversarial. Therefore, based on recommendations found in Webler et al., (2009), the range of statements to be included in the Q was set at between 15 and 45. Piloting of an initial set of 45 statements identified redundancies and reduced the set to 36. In addition, the wording of some of the statements was refined to eliminate the presence of multiple propositions and to clarify meaning. The content validity of the Q set was confirmed through expert advice, per Wigger and Mrtek (1994). The viewpoints of participants are not subject to concerns of validity, but content validity of the Q set is important for this study to ensure a broad and representative set of statements relevant to the research questions.

The range of +5 to -5 indicating most intense in one direction to most intense in the other direction (Brown, 1980), or *most agree* to *most disagree*, and a quasi-normal distribution was chosen based on recommendations in Watts and Stenner (2012). A forced distribution was

chosen to help respondents differentiate nuances in different statements. A leptokurtic or steep distribution was chosen to reflect the relatively inexperienced character of the P set (van Excel & de Graaf, 2005). Since participants were entering into an introductory level mediation course with no prerequisite experience with conflict resolution, a leptokurtic distribution that allowed for more neutral expression for those without expertise was determined to be appropriate. In pilot testing with experienced mediators, it was evident that a flatter distribution would be more appropriate for their subjective expression of perspective on conflict resolution in order to provide them with greater opportunities to identify extreme positions. However, for the P set of trainees entering an introductory mediation course, a steeper distribution was warranted.

Integral to the development of the Q set is the development of the wording for the condition of instruction that allows the respondent to construct a tangible representation of his or her subjective perspective. In addition, clarity and conciseness of instructions given to participants to conduct the Q sort is critical to the validity of the study (Wigger & Mrtek, 1994). Watts and Stenner (2012) provide lengthy instructions to provide participants before conducting a sort. In an unrelated and unpublished Q methodology study, the researcher took part in conducting a traditional Q sort activity using oral instructions alone, with some administrations of the sort aided by a sample sort example given on an interactive white board. In the pilot for the Q method, however, there was concern by the trainer of the mediation course that the instructions modeled after Watts and Stenner (2012) were too cumbersome and that the explanation would not hold the interest of the trainees. Therefore, a four-minute video was designed and developed with the intent of both conveying clear and concise information, and holding participants' interest. The second pilot study used the video (Appendix F, Appendix G)

for instructions prior to each Q sort, and the feedback from the trainer and the participants was all positive.

Step 3: Develop the P set. The P set was comprised of a purposeful sample of trainees enrolled in an introductory mediation training course. The set of participants reflected Brown's (1980) definition of purposeful, meaning that they were theoretically relevant to the problem of the study, and not based on random selection. As the study was investigating participants' perspectives in mediation training, all participants were from the same mediation training course. The course typically enrolls from 10 to 20 participants. The second pilot study had 15 participants, and the final study had 10 participants. The research questions involve identifying perspectives of participants in a general mediation training course, so the selection of the P Set was a natural consequence of enrollment numbers in the course. Table 1 shows the professional experience of participants from the second pilot study.

Table 1
Professional Experience of Participants in the Second Pilot Study

Profession	Participants
Counseling	P1, P7, P11[a]
Lawyer	P2, P3[a], P5, P8, P10[b]
Law Enforcement	P4
Human Resources/Training	P6, P9
Higher Education Administration	P12, P13, P14
State Environmental Agency	P15

[a] Graduate or professional student
[b] Government official

Step 4: Administer the Q sort. Administering the Q sort involved providing participants with clear instructions and purposeful materials that were easy to use. The second pilot study revealed another issue to address regarding the post-training questionnaire and the discussion after the sort. The second pilot study was in the context of an actual introductory training course. The Q sort was administered by the researcher before the trainer began talking about mediation. After completing the Q sort on the grid, participants were asked, per the initial instructions, to complete the post-sort questionnaire, which was front and back. However, not all of the participants realized the questionnaire was front and back, so a more explicit reminder on the questionnaire itself was added reading "complete questions on the back." Upon completion of the writing task, the researcher opened up the floor for discussion of any problematic statements, thoughts, or concerns participants had in conducting the Q sort. The trainer wanted to initiate discussion of what mediation training would teach them about the issues related to conflict resolution in the Q sort, effectively providing "answers" to participants' concerns. However, it was important to maintain the line of researcher conducting the discussion without providing answers while participants explored their newly engaged perspectives on conflict resolution before the actual training began.

The second pilot study revealed that the methods and procedure were effective in alleviating concerns raised in the first pilot study. Regarding the concern of engagement and quality of materials, 2 out of 15 participants requested to participate in the Q sort again at the end of training because they enjoyed it and found value in what they learned from doing it. They were eager to see how they would do it again based on what they learned in training. In addition, there were no significant or consistent issues that participants had with the statements as indicated in their comments on the post-sort questionnaires. Preliminary data analysis also

suggested that the methods and procedures were effective for procuring data to address the research questions.

Data Analysis Plan

Analysis of Q sort data was conducted using PQMethod 2.20, a public domain program designed specifically for Q method analysis (Schmolck, 2002). This program generates extensive output files that need to be processed by the researcher to extract the relevant statistical information. Then, the data is analyzed to merge the quantitative and qualitative aspects of the results into a narrative that identifies the operant subjectivity, which is the goal of the methodology. In order to show the detail of the analysis work done through Q methodology, the results chapter will begin with an elaboration of the data generated from the Q methodology process in two stages, and then move to answering the specific research questions from the data gathered through the Q sort and the other instruments in the study.

The first stage of the Q sort data analysis in the current study related to identifying the perspectives of the 10 participants at the start of training and at the end of training. The second stage of data analysis addressed perspective changes and included a second-order factor analysis of the pre-training and post-training factors, statistical changes for individuals between pre-training and post-training, and theoretical changes for individuals between pre-training and post-training. Figure 21 summarizes the Q sort data analysis plan.

Stage 1: Identifying Perspectives	
Analysis focus	Inputs for analysis
1. Pre-training factors	Q sorts of participants (n = 10)
2. Post-training factors	Q sorts of participants (n = 10)
Stage 2: Comparing Perspectives	
Analysis focus	Inputs for analysis
3. Second-order factor analysis	Pre-training and post-training factors (n = 5): idealized Q sorts that defined the pre-training factors (Pre Factors 1, 2, and 3) and the post-training factors (Post Factors 1 and 2)
4. Theoretical changes of individuals	Individual membership in pre-training factors compared to individual membership in post-training factors (n = 10)
5. Statistical changes of individuals	Individuals compared at T1 and T2

Figure 21. Summary of Q sort analysis plan.

Step 1: Pre-Training Factors

Each individual data set from the pre-training Q sort was input into the PQMethod 2.20 computer program. All ten data Q sorts were then factor analyzed using the centroid method, which allows for more exploratory results that the statistically oriented principle components method. Factors were extracted based on the rule requiring at least two significant loadings. Although eigenvalues have been identified by Brown (1980) and Watts and Stenner (2012) as the most widely used method to determine the number of factors, Brown stressed that this method can frequently result in the loss of significant factors. Because an eigenvalue is the sum of squared loadings for a factor, it is affected by the number of variables included in the study. The current study had a relatively low number of variables ($n = 10$), so eigenvalues for a majority of the factors extracted were not high enough to fit the EV > 1.0 criteria. Consequently, the final factor solution utilized the rule of determining factors by accepting those that had at least two significant loadings. The following calculation was used to determine how large a loading must

be to be considered significant: critical value x $1/\sqrt{N}$, where N is the number of Q set items.

Factor loadings are statistically significant (p < .01) if they are in excess of 2.58 times the

standard error (SE), and statistically significant (p < .05) if they are in excess of 1.96 times the

SE (Brown, 1980, p. 222–3). Standard error is calculated utilizing the following equation: SE =

$1/\sqrt{N}$, where N is the number of statements in the Q sample. For this study SE = 1/ $\sqrt{36}$ = .167,

so factor loadings in excess of 2.58 x (.167), or .43 were considered statistically significant at p <

.01, and factor loadings in excess of 1.96 x (.167), or .33 were considered statistically significant

at p < .05.

Varimax rotation, followed by judgmental rotation created a best-fit solution to include

all participants' sorts and reduce the number of confounded sorts. A narrative description of

each factor was created through the holistic analysis of the statistical data and the content of

statements that characterized the factors and each person's sort. Each factor was given a name

based on the emerging themes and relationship of the factor's identity in relation to the

participants' explanations as provided in the post-sort questionnaires, and in relation to the

theoretical framework that identified the statements as adversarial, evaluative, facilitative, with

further designations for some as narrow or broad (Riskin, 1996).

Step 2: Post-Training Factors

The same procedure used for the pre-training factors was followed for the post-training

factors, except the principle components method (PCM) was used for the initial factor analysis

instead of the centroid factor analysis. This decision was based on the researcher's desire to get

at a more statistically precise solution as the assumption was that perspectives would have

become more aligned at the end of training. Judgmental rotation was used to achieve a best-fit

solution.

Step 3: Second-Order Factor Analysis

The same procedure used for the post-training factors was followed for the second-order factor analysis. The Q sort inputs were the factor arrays from the pre-training and post-training analysis. This step yielded a set of factors identified by the name *Compare* to indicate these factors are taking both the pre-training and post-training idealized Q sorts for the emergent factors as the data. This was done based on Watts and Stenner's (2012) recommendation to capture any relevant associations between the viewpoints of the pre-training and post-training groups (p. 54). Principle components method (PCM) was used for the initial factor analysis, followed by judgmental rotation to achieve a best-fit solution.

Step 4: Theoretical Changes of Individuals

The step involving theoretical changes of individuals required the comparison of the theoretical aspects of the pre-training and post-training factors. Individual membership in pre-training factors was compared to individual membership in post-training factors, based on the theoretical identity of the factors. Movement from one factor to another indicated a theoretical change.

Step 5: Statistical Changes of Individuals

Data from the pre-training and post-training Q sorts were entered into the PQMethod 2.20 program for each individual separately, and analyzed using the principal components method. This produced orthogonal factors for each individual representing each participant's pre-training and post-training sort. Statistically significant differences were determined using the test and re-test criteria established in Frank (1956), Steller and Meurer (1974), and Brown (1980). Correlation coefficients among factors and factor loadings were examined to assess the convergence or divergence in perspectives before and after training.

Research Questions

The initial data analysis involved in the Q methodology process was necessary to conduct prior to addressing the specific research questions in the study. Figure 22 indicates the research questions that guided this study, the instruments used to address each question, and the focus of the data analysis for each question.

Research Questions	Instruments	Focus of Data Analysis	
1. What perspectives on conflict do individuals entering into an initial mediation certification course have?	Q sort (Appendix D)	Perspectives that emerge and individuals who load onto each factor.	Pre-Training (Baseline) Measurement
2. How do participants' professional experiences prior to an initial mediation certification course relate to their perspectives on conflict at the start of training?	Q sort and Pre-Training Questionnaire (Appendix C)	Connections between factors and participants' previous experience.	
TRAINING INTERVENTION			
3. How do participants' perspectives on conflict change at the end of an initial mediation certification course?	Q sort (Appendix D)	Changes within each individual's sort; changes in groupings; changes in the configuration of the groupings.	Post-Training Measurement
4. What change in perspective do mediation training participants claim is most significant upon completion of an initial mediation certification course?	Post-Training Questionnaire (Appendix E)	Connections between changes identified by Q sort analysis; changes identified by participants' self-report.	
5. What aspect of the training do participants identify as having the greatest impact on their change?	Post-Training Questionnaire (Appendix E)	Connections between self-report and the literature on instructional strategies that can lead to transformative learning.	

Figure 22. Research questions, instruments, and focus of data analysis.

Data from the pre-training and post-training questionnaires were used to inform the analysis of the data gathered in the Q sort activities. Specifically, information regarding participants' prior experience with mediation and professional experience was used to address the research question concerning how professional experience impacts individuals' perspectives on conflict resolution. In addition, information on whether or not the participants perceived a change in their perspectives on conflict resolution, per the post-training questionnaire, was used in the holistic interpretation of data concerning what changes in perspective occurred. The final study indicated that perspective changes did occur at some level for all but one of the ten participants, the significance of which was analyzed in chapter 4 of this study to answer the research questions.

CHAPTER 4:

RESULTS

All ten participants who registered and attended the mediation training gave consent to

participate and provided data for this study. Seven males and three females participated in the

study. Three dominant perspectives on conflict resolution in mediation emerged prior to training

ranging from a facilitative broad view to an evaluative narrow view (Table 2).

Table 2
Pre-Training and Post-Training Perspective Group Labels.

Perspective Category	Pre-Training Labels	Post-Training Labels
Facilitative Broad	Encouragers with Broad Facilitative Tendencies	Part-Oriented, Facilitative Broad
Facilitative Narrow	Logical and Practical with a Narrow Facilitative Approach	Process-Oriented, Facilitative Narrow
Evaluative	Expert Guides with Evaluative Leanings	

The facilitative broad approach emphasized the mediator as an encourager to parties; the

facilitative narrow perspective emphasized the mediation process as logical and practical; the

evaluative perspective emphasized the mediator as expert. Figure 23 shows where the pre-

training perspectives fit in Riskin's (1996) grid of mediator orientations.

Role of Mediator

EVALUATIVE
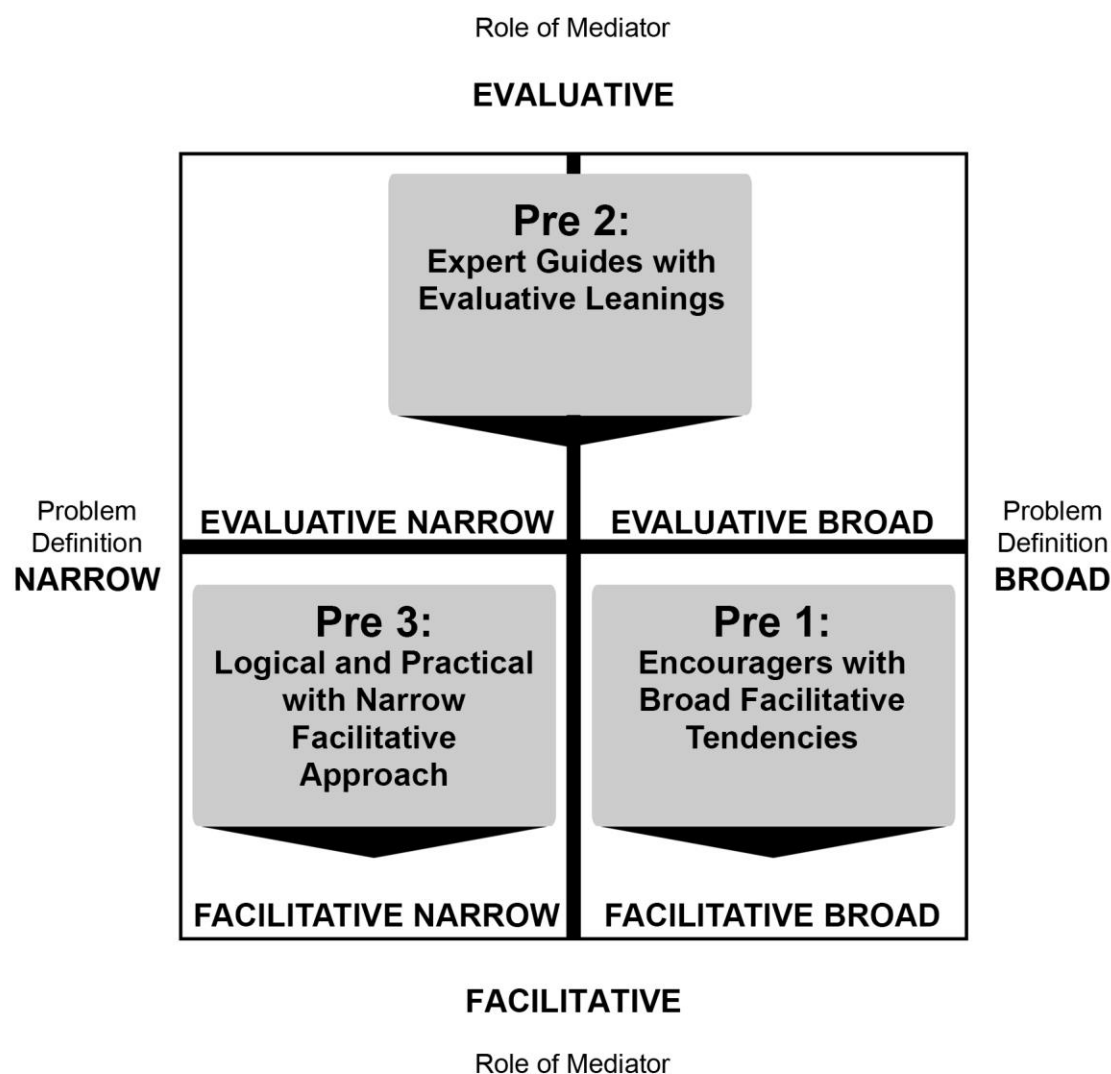
Figure 23.   Pre-training factor positions imposed on Riskin's (1996) grid of mediator orientations.

At the end of training, only two perspectives emerged, including a facilitative narrow perspective focusing on the process of mediation, and a facilitative broad perspective focusing on the parties of mediation. The post-training factor solution eliminated the more evaluative perspective, and retained two facilitative perspectives. One of the post-training facilitative perspectives emphasized parties, which suggested a broad perspective. The other post-training facilitative perspectives emphasized the process, which suggested a narrow perspective.

Figure 24 shows where the post-training perspectives fit in Riskin's (1996) grid of mediator orientations. The evaluative perspective from the pre-training has merged into two different manifestations of facilitative perspectives.
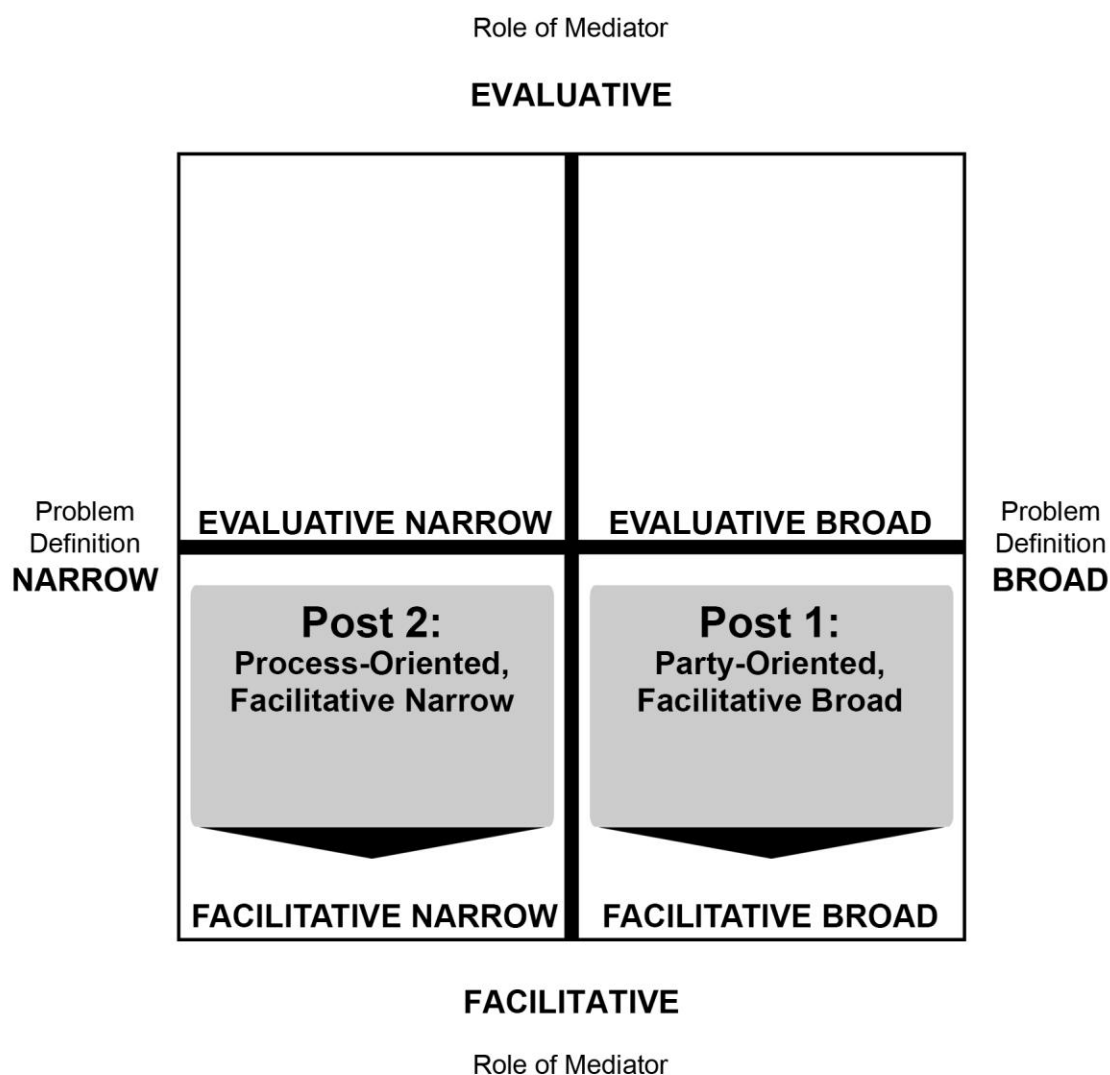
Figure 24.   Post-training factor positions imposed on Riskin's (1996) grid of mediator orientations.

Regarding individual changes at the end of training, all but one of the ten participants had a statistically significant change in perspective moving toward the broad facilitative perspective promoted in training. This change was indicated either by a theoretical or a statistical difference

between pre-training perspective measurements and post-training perspective measurements. Changes in perspective groups indicated a theoretical difference; changes in individuals' significant loadings within a perspective group indicated a statistical change.

The participants' professions were diverse with only three out of ten coming from the same profession (Table 3).

Table 3
Professional Experience of Participants in the Study.

Profession	Participants
Lawyer	P1 [a], P2 [b], P10[a]
Communication manager	P3
Doctor	P4
Travel consultant	P5
Retired high school math teacher	P6
Social science graduate student	P7
Business professor	P8
Recent college graduate	P9

[a] Practicing attorney
[b] Law School faculty

Participants' experiences with mediation varied ranging from no experience, to experience as a party in mediation, to participation in mediation as an attorney (Figure 25). One participant reported participating in training over ten years ago and being a party in mediation. One of the practicing lawyers reported participating in over 100 mediations as an attorney.
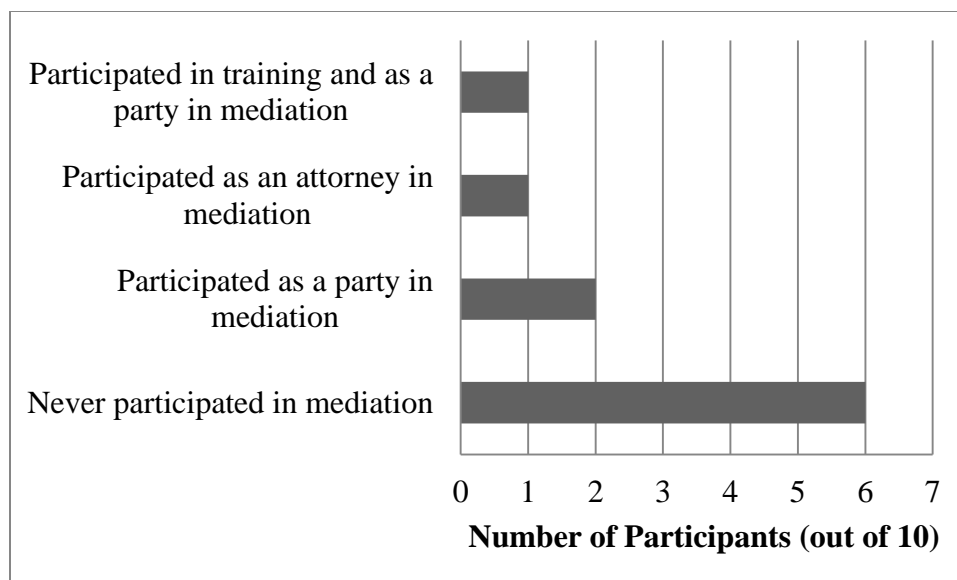
Figure 25. Participants' previous participation in mediation.

Summary of Data Collection Process

A total of 10 participants who registered and attended a general civil mediation training course consented to take part in this study. Prior to the start of training, all 10 participants completed a pre-training survey via email indicating their current profession and any previous experience with mediation. At the start of training, all 10 participants conducted a Q sort to identify their perspective on conflict resolution. Participants were given the instruction to sort a selection of 36 statements according to a forced Gaussian distribution ranging from -5 *most disagree* to +5 *most agree* under the following condition: "rank the statements according to how you would respond to conflict resolution as a mediator." This condition of instruction was given to the same group of 10 participants in mediation training a second time at the end of training. After each Q sort activity, participants completed a post-sort questionnaire that allowed them to provide explanations for what the most significant statements meant to them and why they sorted the statements at the extreme ends, or anchors, of the distribution. This questionnaire allowed participants to identify their subjective perspectives regarding the statements. After the post-training Q sort activity at the conclusion of the training, 9 of the 10 participants completed a

post-training questionnaire that asked them to identify whether or not they experienced a change in perspective, and if so, what they attributed that change to in the training.

Overview of Pre-Training Factors

The raw data from participants' pre-training Q sorts was entered into the PQMethod 2.20 (Schmlock, 2002) software program by the researcher. The resulting correlation matrix is shown in Table 4.

Table 4

Pre-Training Correlation Matrix Between Sorts.

Sorts	1	2	3	4	5	6	7	8	9	10
P1	100	26	55	35	33	43	50	33	22	30
P2	26	100	28	50	59	40	43	43	33	20
P3	55	28	100	33	36	54	39	61	38	29
P4	35	50	33	100	57	38	46	42	39	19
P5	33	59	36	57	100	50	59	45	40	19
P6	43	40	54	38	50	100	59	65	63	23
P7	50	43	39	46	59	59	100	56	39	36
P8	33	43	61	42	45	65	56	100	58	27
P9	22	33	38	39	40	63	39	58	100	15
P10	30	20	29	19	19	23	46	27	15	100

The correlation matrix indicates the relationship that each Q sort has with every other Q sort in the study. Values in Table 4 are presented as whole numbers but represent percentages, so that each sort has 100% correlation with itself. Higher numbers indicate greater commonality and lower numbers indicate lesser commonality. The correlation matrix provides the raw data for the centroid factor analysis which followed.

Because of the small number of Q sorts in the current study, only four factors were originally extracted. Brown (1980) suggested researchers begin to explore factors by extracting seven, but Watts and Stenner (2012) provided a starting point for factor extraction based on the

number of participants in the study. According to Watts and Stenner (2012), a study with less

than 12 Q sorts might start with extracting two factors. For the sake of exploration, that number

was doubled for the initial extraction of pre-training factors in the current study. Table 5 shows

the loadings for four extracted factors prior to rotation.

Table 5

Pre-Training Unrotated Factor Matrix.

Sorts	Factor 1	Factor 2	Factor 3	Factor 4
P1	0.562	-0.4961	-0.0376	0.2248
P2	0.5911	0.2482	-0.3177	0.1282
P3	0.6476	-0.1537	0.1853	0.0704
P4	0.6243	0.1384	-0.2733	0.0561
P5	0.6986	0.1878	-0.3252	0.0992
P6	0.7752	0.0189	0.2696	0.1123
P7	0.7575	-0.063	-0.177	0.0035
P8	0.7663	0.0122	0.3027	0.1383
P9	0.6012	0.325	0.2555	0.2617
P10	0.3597	-0.2865	-0.0361	0.0531
Eigenvalues	4.2151	0.5779	0.5794	0.1879
% explained variance	42	6	6	2

As explained in chapter 2, there is not one way to determine the number of factors to

extract. Based on eigenvalue criteria, only one of the extracted factors shown in Table 5 is

eligible for extraction (Factor 1, $4.2151 > 1.0$). The criteria of two significant loadings also only

indicated one factor. Therefore, all four factors were retained for the rotation stage to see if a

better picture of the data emerged.

Varimax rotation was chosen to maximize the variance explained. Table 6 shows the

loadings for the four extracted factors after rotation. The loadings from Table 6 indicated that

there were at least two significant factor loadings ($p < .01$) for the first three factors, but that

factor four had no significant loadings.

Table 6

Pre-Training, Varimax Rotated 4-Factor Matrix.

Sorts	Factor 1	Factor 2	Factor 3	Factor 4
P1	0.18	**0.74x**	0.19	-0.06
P2	**0.68x**	0.12	0.22	-0.04
P3	0.21	0.45	0.48	0.11
P4	**0.62x**	0.21	0.23	0.05
P5	**0.73x**	0.22	0.26	0.01
P6	0.3	0.36	**0.68x**	0.09
P7	**0.56x**	0.43	0.3	0.15
P8	0.27	0.36	**0.7x**	0.07
P9	0.33	0.04	**0.69x**	-0.11
P10	0.13	**0.43x**	0.11	0.04

Note. Q sorts that define a particular factor are bold and marked with an X.

The data from the varimax rotated 4-factor solution suggested that a three factor solution was a better choice. Table 7 shows the loadings for three extracted factors after rotation. All ten sorts loaded onto one of the three factors, with two confounded sorts from participants three and seven loading significantly but not highly on two factors.

Table 7

Pre-Training, Varimax Rotated 3-Factor Matrix.

Sorts	Factor 1	Factor 2	Factor 3
P1	0.16	**.71x**	0.16
P2	**.67x**	0.11	0.21
P3	0.2	0.45	0.48
P4	**.62x**	0.22	0.23
P5	**.72x**	0.21	0.25
P6	0.29	0.36	**.69x**
P7	0.55	0.45	0.32
P8	0.26	0.36	**.69x**
P9	0.32	0.01	**.66x**
P10	0.12	**.43x**	0.1

Note. Q sorts that define a particular factor are bold and marked with an X.

In order to minimize the confounding sorts, while maximizing existing loadings, judgmental rotation was used. Figure 26 shows factors two and three rotated -13 degrees on axes two and three at time *0* and time *1*. Next, factors one and three were rotated seven degrees. Figure 26 shows the first rotation between factors two and three of -13 degrees. The factor axis is what rotates counter-clockwise, leaving the actual participant loadings in the same position with respect to one another. This rotation accounted for the confounding of participant three.

	2_0	3_0
P1	**.71x**	0.16
P2	0.11	0.21
P3	0.45	0.48
P4	0.22	0.23
P5	0.21	0.25
P6	0.36	**.69x**
P7	0.45	0.32
P8	0.36	**.69x**
P9	0.01	**.66x**
P10	**.43x**	0.1

	2_1	3_1
P1	**.66x**	0.32
P2	0.06	0.23
P3	0.33	**.57x**
P4	0.16	0.27
P5	0.15	0.3
P6	0.2	**.74x**
P7	0.37	0.41
P8	0.2	**.76x**
P9	-0.13	**.64x**
P10	**.40x**	0.2
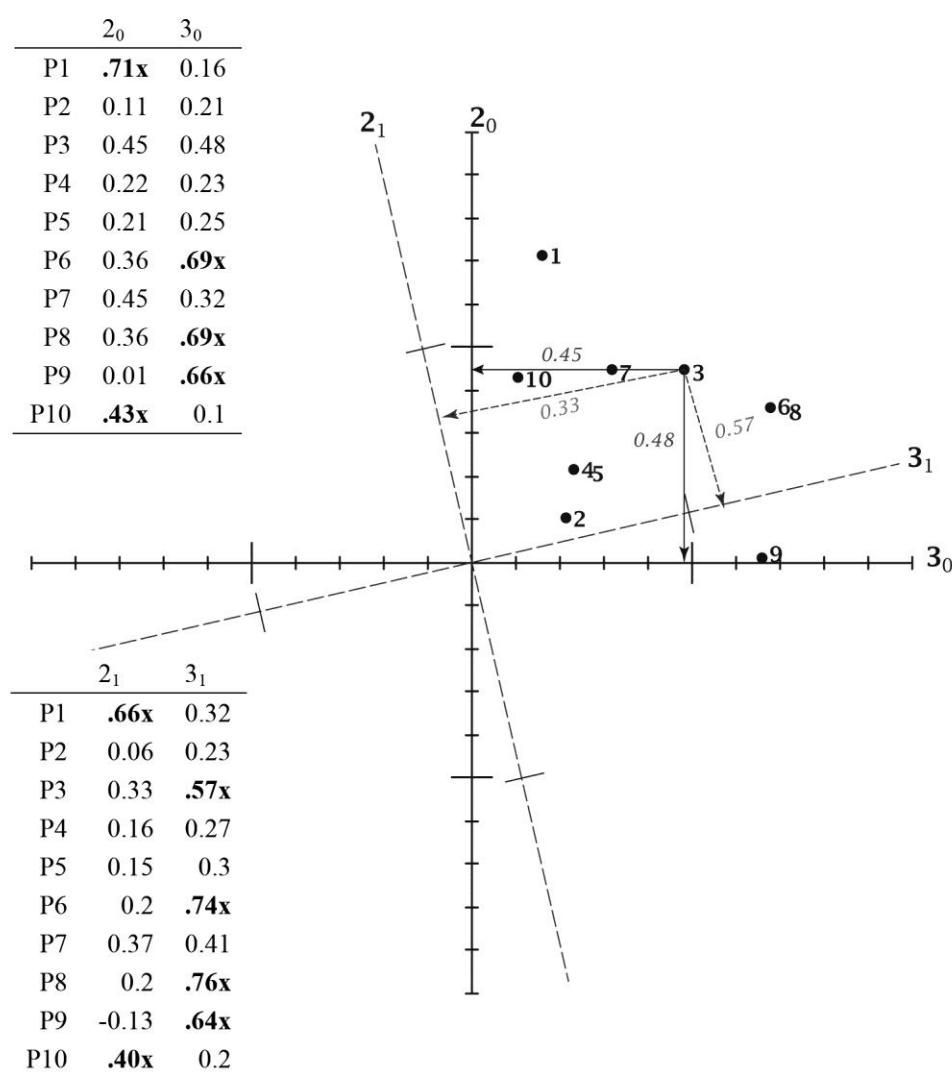
Figure 26. Pre-training, manual rotation between factors two and three with charts showing the changes in factor loadings.

The first rotation between factors two and three resolved the confounding of participant three but not participant seven. The charts in Figure 26 show the factor loadings at time *0*, after varimax rotation but before any judgmental rotation, and then at time *1*, after the manual rotation between factors two and three. Figure 27 shows the second rotation between factors one and three at times *1* and *2* of seven degrees clockwise.

	1_1	3_1
P1	0.16	0.32
P2	.67x	0.23
P3	0.2	.57x
P4	.62x	0.27
P5	.72x	0.3
P6	0.29	.74x
P7	0.55	0.41
P8	0.26	.76x
P9	0.32	.64x
P10	0.12	0.2

	1_2	3_2
P1	0.2	0.3
P2	.70x	0.15
P3	0.27	.54x
P4	.65x	0.2
P5	.75x	0.21
P6	0.38	.70x
P7	0.60x	0.34
P8	0.35	.72x
P9	0.39	.60x
P10	0.15	0.18
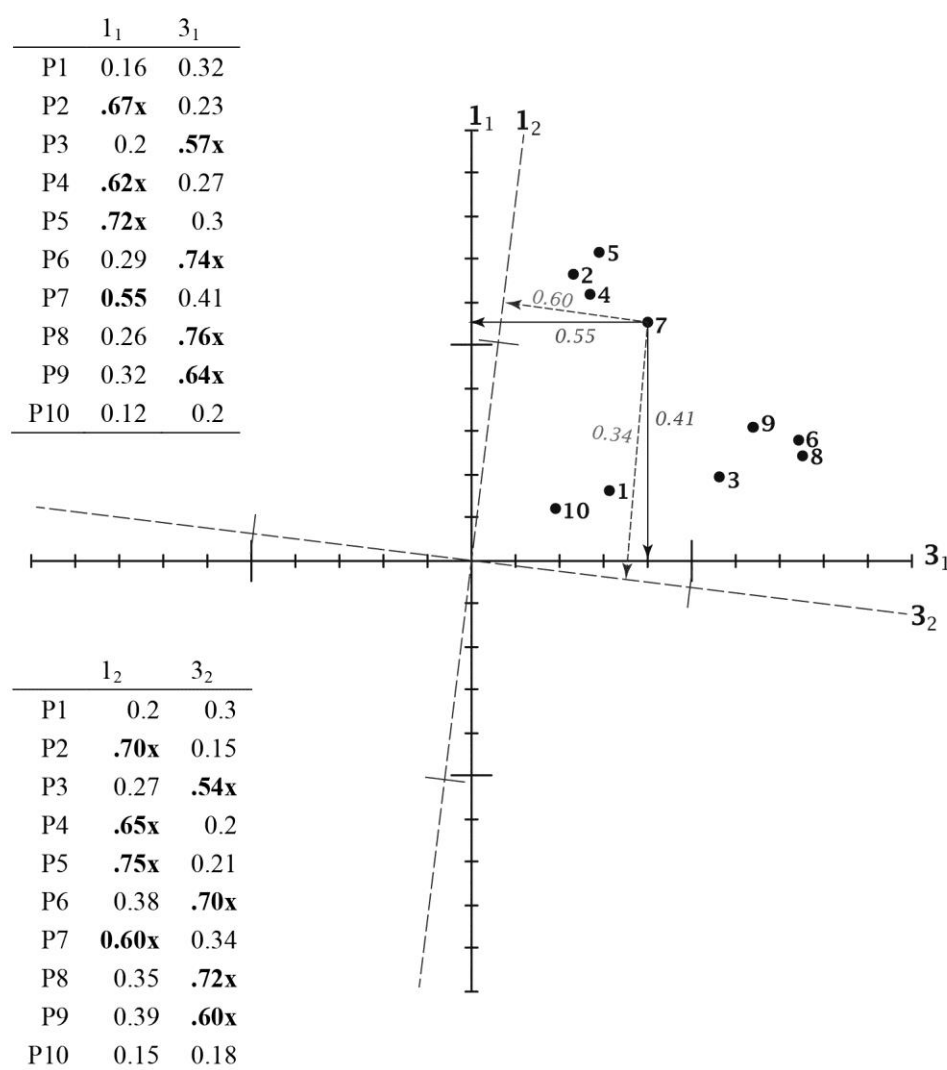
Figure 27. Pre-training, manual rotation between factors one and three with charts showing the changes in factor loadings.

The rotation between factors one and three accounted for the confounding of participant seven and produced the best-fit factor loading solution. The charts in Figure 27 indicate the factor loadings at time *1*, which was after the initial rotation of factors two and three but before rotating factors one and three, and the factor loadings at time *2*, which was after the rotation of factor one and three. The final three-factor solution included all participants on a factor, maximized the number of highly significant loadings onto each factor, and explained 54% of the total variance.

The encouragers with broad facilitative tendencies perspective (factor Pre 1) accounted for the greatest amount of explained variance (24%). Four participants (2, 4, 5, and 7) loaded onto this factor at a level of significance greater than .43 ($p < .01$). This perspective had eight distinguishing statements associated at a confidence level of 95% ($p < .05$). Six of the eight statements were significant to the 99% confidence level ($p < .01$). The expert guides with evaluative leanings perspective (factor Pre 2) accounted for 10% of explained variance. Two participants (1 and 10) loaded onto this factor at a level of significance greater than .33 ($p < .05$). This perspective had eight distinguishing statements associated at a confidence level of 95% ($p < .05$). Five of the eight statements were significant to the 99% confidence level ($p < .01$). The logical and practical with a narrow facilitative approach perspective (factor Pre 3) accounted for 20% of explained variance. Four participants (3, 6, 8, and 9) loaded onto this factor at a level of significance greater than .43 ($p < .01$). This perspective had nine distinguishing statements associated at a confidence level of 95% ($p < .05$). Five of the nine statements were significant at the 99% confidence level ($p < .01$) (Table 9).

Table 9

Distinguishing Statements for all Factors (Pre 1, Pre 2, Pre 3) of the Pretraining Q Sorts.

No.	Statement	No.	Factor Arrays		
			Pre 1	Pre 2	Pre 3
1	Emotions get in the way of effective conflict resolution.	1	0	-1	4**
2	To solve a problem effectively, a mediator needs subject matter expertise.	2	-2*	4**	-1*
3	Knowing the law is important to be an effective mediator.	3	-3*	1**	-2*
4	A mediator should evaluate legal issues for parties if they need it.	4	-3**	0	0
7	Mediators should protect people's rights in the mediation process.	7	2	-3**	2
8	A successful mediation should end with a written agreement between parties.	8	3	2	-1**
10	It's important to tell parties the most likely outcome for their problem.	10	-4	0*	-3
12	Mediators should encourage parties to explore underlying emotions.	12	0	-2*	1
13	Successful conflict resolution solves the problem between parties.	13	-1**	-4**	3**
14	Agreements should address the immediate conflict as well as help prevent future conflict between the parties.	14	0	1	4*
15	It's important to tell parties the strengths and weaknesses of their positions.	15	-3**	2**	0**
16	In mediation, the law is not as relevant as underlying issues.	16	2**	-2	-2
19	Parties shouldn't reveal too much to each other or they will weaken their position.	19	-1	-1	-3*
21	Mediators should help parties recognize their own biases and triggers in the conflict resolution process.	21	2	0*	3
24	It's important for a mediator to distinguish between what is legal and what is right.	24	0**	-3	-2
26	An important role of the mediator is to balance the power between parties.	26	1**	-2	0
31	Winning is important.	31	-2	0	-5**

* Distinguishing statements associated at a confidence level of 95% ($p < .05$).
** Distinguishing statements associated at a confidence level of 99% ($p < .01$).

Pre-Training Factor 1: Encouragers with Broad Facilitative Tendencies

Four out of ten participants loaded onto the perspective represented by pre-training factor 1, including two males and two females in professions such as a law school faculty member, a doctor, a communication manager, and a social science graduate student. Two participants sharing this perspective had no prior experience in mediation; two had previously been parties in mediation, and one of these participants also had prior experience with mediation training over ten years ago. Table 10 summarizes this data.

Table 10

Professional Experience for Encouragers with Broad Facilitative Tendencies.

Sex	Profession	Mediation Experience
M	Law School Faculty	None
M	Doctor	Party in a mediation
F	Communication Manager	Experience with mediation training and as a party in mediation
F	Social Science Graduate Student	None

A narrative description was created for factor Pre 1 based on data obtained from the distinguishing statements, the top three *most agree* anchor statements, the bottom three *most disagree* anchor statements, and the responses of participants in the post-sort questionnaire explaining their ranking choices (Table 11). This information contributed to the labeling of this factor as *encouragers with broad facilitative tendencies*.

Table 11

Factor Pre 1: Encouragers with Facilitative Tendencies

Ranking	Statements	Theoretical Category	Remarks on Positive Statements	Remarks on Negative Statements
5	36. My ability to guide parties to find their own answers is important.	Facilitative	"A good process helps parties break down the conflict and work themselves toward resolution"; "a clear process makes it look more fair and is a sort of reassurance in a difficult situation"; "mediators should encourage parties to arrive at their own solution"; "building trust and rapport are the keys to getting parties to be open, honest, and participate fully in the process"; "parties will be more satisfied if they take a personal role in the resolution of the conflict"; "trust and rapport are catalysts for open and honest communication."	"Mediators should not inject bias into the process"; "encouraging parties to ask for more than they expect is unethical."
4	35. Parties need to be provided with a clear process to resolve their conflict.	Evaluative or Facilitative		
4	5. The ability to build trust and rapport is important to be an effective mediator.	Facilitative		
-5	23. Mediators should let parties know who they think has the better argument.	Facilitative Narrow		
-4	25. Mediators should encourage parties to ask for more than they expect in anticipation of compromise.	Adversarial		
-4	10. It's important to tell parties the most likely outcome for their problem.	Evaluative		

Note. Contributors to the factor: P2, P4, P5, P7.

The perspective of broad facilitative encouragers distinguished itself from the other two groupings by expressing the most disagreement with statements privileging a mediator's understanding of the law (statements 3, 4, and 15). Three of the statements from the top three responses in the *most agree* positions were facilitative statements, with one having a split classification as facilitative or evaluative. The statements from the top three responses in the *most disagree* positions included one facilitative narrow statement, one adversarial statement, and one evaluative statement. The sort that defined the encouragers with broad facilitative tendencies perspective had greatest agreement with the following anchor statements:

1. "My ability to guide parties to find their own answers is important" (statement 36).

2. "Parties need to be provided with a clear process to resolve their conflict" (statement 35).

3. "The ability to build trust and rapport is important to be an effective mediator" (statement 5).

The statements with the greatest disagreement included the following anchor statements:

1. "Mediators should let parties know who they think has the better argument" (statement 23).

2. "Mediators should encourage parties to ask for more than they expect in anticipation of compromise" (statement 25).

3. "It's important to tell parties the most likely outcome for their problem" (statement 10).

The post-sort questionnaire responses of participants who loaded onto this factor emphasized the mediator's role as an encourager. Several quotes from the questionnaire described the perspective of mediator as an encourager, focusing on the feelings of parties and their full involvement in the process: "a clear process…is a sort of reassurance in a difficult situation"; "parties would feel more satisfied if they have taken a personal role in the resolution

of the conflict"; "trust and rapport are catalysts for open and honest communication"; and the

mediator's role is one of "encouraging the parties to arrive at their own solution" (Table 11).

Pre-Training Factor 2: Expert Guides with Evaluative Leanings

Two out of ten participants loaded onto the perspective represented by pre-training factor

2; both participants were male and were practicing attorneys. One participant in this perspective

reported having no prior experience in mediation and the other reported that he participated in

over 100 mediations in his capacity as attorney. Table 12 summarizes this data.

Table 12

Professional Experience for Expert Guides with Evaluative Leanings.

Sex	Profession	Mediation Experience
M	Attorney	None
M	Attorney	Attorney in 100+ mediations

A narrative description was created for this perspective based on data obtained from the

distinguishing statements, the top three *most agree* anchor statements, the bottom three *most*

disagree anchor statements, and the responses of participants in the post-sort questionnaire with

explanations of their ranking choices (Table 13). This information contributed to the labeling of

this perspective as *expert guides with evaluative leanings.* This perspective of an evaluative

group of experts distinguished itself from the other two groupings by expressing the most

agreement with statements privileging the importance of a mediator's subject matter expertise

and knowledge of the law (statements 2 and 3).

Table 13

Factor Pre 2: Expert Guides with Evaluative Leanings

Ranking	Statements	Theoretical Category	Participants' Remarks on Positive Statements	Participants' Remarks on Negative Statements
5	5. The ability to build trust and rapport is important to be an effective mediator.	Facilitative	"The parties already don't trust each other so they need to be able to trust the mediator"; "mediator should help each side understand the other's position"; "the mediator's role is to guide parties in the process."	"The mediator is not a judge and probably will lose trust if he/she takes a side in the conflict"; "mediation does not 'solve' the problem but helps parties compromise."
4	6. Mediators should encourage parties to see their problem from multiple viewpoints.	Facilitative Broad		
4	2. To solve a problem effectively, a mediator needs subject matter expertise.	Evaluative Narrow		
-5	23. Mediators should let parties know who they think has the better argument.	Facilitative Narrow		
-4	34. In analyzing problems, there is usually a right and a wrong response.	Adversarial or Evaluative		
-4	13. Successful conflict resolution solves the problem between parties.	Evaluative or Facilitative (Narrow)		

Note. Contributors to the factor: P1, P10.

Two of the statements from the top three responses in the *most agree* positions were facilitative, and one was evaluative. The statements from the top three responses in the *most disagree* positions were facilitative with a narrow perspective, adversarial, and evaluative. The sort that defined the expert guides with evaluative leanings perspective had the greatest agreement with the following anchor statements:

1. "The ability to build trust and rapport is important to be an effective mediator" (statement 5).

2. "Mediators should encourage parties to see their problem from multiple viewpoints" (statement 6).

3. "To solve a problem effectively, a mediator needs subject matter expertise" (statement 2).

The anchor statements defining factor Pre 2 with the greatest disagreement included the following:

1. "Mediators should let parties know who they think has the better argument" (statement 23).

2. "In analyzing problems, there is usually a right and a wrong response" (statement 34).

3. "Successful conflict resolution solves the problem between parties" (statement 13).

The post-sort questionnaire responses of participants who loaded onto factor Pre 2 described the mediator's role as an expert who guides parties to find solutions. Questionnaire responses from the participants loading onto this perspective repeatedly identified compromise as a goal of mediation. In addition, one explanation of statement 5 from a participant loading onto this factor emphasized the importance of trust in the mediator as an expert to guide the process, because "the parties already don't trust each other" (Table 13).

Pre-Training Factor 3: Logical and Practical, with a Narrow Facilitative Approach

Four out of ten participants loaded onto the perspective represented by pre-training factor 3, including three males and one female, in professions such as travel consulting, secondary education, post-secondary education, and a recent college graduate. All four participants in this perspective reported having no prior experience in mediation. Table 14 summarizes this data.

Table 14

Professional Experience for Logical and Practical, with a Narrow Facilitative Approach.

Sex	Profession	Mediation Experience
F	Travel Consultant	None
M	Retired High School Math Teacher	None
M	Business Professor	None
M	Recent College Graduate	None

A narrative description was created for this perspective based on data obtained from the distinguishing statements, the top three *most agree* anchor statements, the bottom three *most disagree* anchor statements, and the responses of participants in the post-sort questionnaire explaining their ranking choices (Table 15). This information contributed to the labeling of this factor as *logical and practical, with a narrow facilitative approach.* Factor Pre 3, the narrow facilitative group of logical and practical mediators, distinguished itself from the other two groupings by having the greatest agreement that emotions get in the way of successful mediation, and that it is important to solve the problem in mediation to repeat parties returning to conflict (statements 1, 13, and 14).

Table 15
Factor Pre 3: Logical and practical with a narrow facilitative approach

Ranking	Statements	Theoretical Category	Participants' Remarks on Positive Statements	Participants' Remarks on Negative Statements
5	5. The ability to build trust and rapport is important to be an effective mediator.	Facilitative	"The end game is the successful resolution of the problem--that says it all;" "you don't want parties to return to the bargaining table quickly and re-engage in conflict;" "emotions are inherently irrational, and thus likely to impede the rational thought required to solve conflict;" "trust is important in every social interaction."	"It's not about winning but about compromise;" "the mediator's judgment has nothing to do with the resolution of the conflict;" "conflict resolution should focus on the actual issues and not the strength or weakness of an argument."
4	1. Emotions get in the way of effective conflict resolution.	Evaluative Narrow		
4	14. Agreements should address the immediate conflict as well as help prevent future conflict between the parties.	Facilitative Broad		
-5	31. Winning is important.	Adversarial		
-4	23. Mediators should let parties know who they think has the better argument.	Facilitative Narrow		
-4	25. Mediators should encourage parties to ask for more than they expect in anticipation of compromise.	Adversarial		

Note. Contributors to the factor: P3, P6, P8, P9.

The *logical and practical, with a narrow facilitative approach* perspective shared significant agreement with the encouragers with broad facilitative tendencies perspective (factor Pre 1), specifically that the law was not important in mediation (statements 2, and 3), placing them closer to a facilitative approach than the evaluative Pre 2 grouping. The logical and practical, with a narrow facilitative approach perspective (factor Pre 3) also shared agreement with the experts with evaluative leanings perspective (factor Pre 2). This agreement focused on the role of emotions in mediation expressed in terms of underlying issues. The narrow facilitative and evaluative perspectives agreed that the law is as relevant or more than the underlying issues parties may bring to mediation (statement 16), placing them closer to a narrow approach than the broad facilitative group.

Two of the statements from the top three responses in the *most agree* positions were facilitative and one was evaluative. Two of the statements from the top three responses in the *most disagree* positions were adversarial and one was facilitative narrow. The sort that defined the logical and practical, with a narrow facilitative approach perspective had the greatest agreement with the following anchor statements:

1. "The ability to build trust and rapport is important to be an effective mediator" (statement 5).

2. "Emotions get in the way of effective conflict resolution" (statement 1).

3. "Agreements should address the immediate conflict as well as help prevent future conflict between the parties" (statement 14).

The anchor statements with the greatest disagreement included from the sort that defined this perspective included the following:

1. "Winning is important" (statement 31).

2. "Mediators should let parties know who they think has the better argument" (statement 23).

3. "Mediators should encourage parties to ask for more than they expect in anticipation of compromise" (statement 25).

The post-sort questionnaire responses of participants who loaded onto the logical and practical, with a narrow facilitative approach perspective revealed an emphasis on logic over emotions. The following quotes illustrated this perspective, characterized by logic and practicality: "emotions are inherently irrational, and thus likely to impede the rational thought required to solve conflict" and "you don't want parties to return to the bargaining table quickly and re-engage in conflict" (Table 15).

Overview of Post-Training Factors

The raw data from participants' post-training Q sorts was entered into the PQMethod 2.20 (Schmlock, 2002) software program by the researcher. The resulting correlation matrix is shown in Table 16.

Table 16

Post-Training Correlation Matrix Between Sorts.

Sorts	1	2	3	4	5	6	7	8	9	10
P1	100	71	57	53	66	62	58	46	53	58
P2	71	100	62	66	64	67	67	58	63	41
P3	57	62	100	55	67	68	71	65	53	35
P4	53	66	55	100	63	60	65	52	45	39
P5	66	64	67	63	100	62	74	64	46	32
P6	62	67	68	60	64	100	66	89	75	49
P7	58	67	71	65	74	66	100	59	57	36
P8	46	58	65	52	64	79	59	100	72	43
P9	53	63	53	45	46	75	57	72	100	57
P10	58	41	35	39	32	49	36	43	57	100

The correlation matrix indicates the relationship that each Q sort has with every other Q sort in the study. Values in Table 16 are presented as whole numbers but represent percentages, so that each sort has 100% correlation with itself. Higher numbers indicate greater commonality and lower numbers indicate lesser commonality. The correlation matrix provides the raw data for the factor analysis which followed. For the post-training factors, the researcher's assumption was that perspectives would have come closer in alignment with the perspective promoted in the training. Because of that, the statistically oriented principal components analysis was chosen over the more exploratory centroid factor analysis used to analyze the pre-training Q sorts. Table 17 shows the loadings for four extracted factors prior to rotation.

Table 17

Post-Training, Unrotated Principle Components Method Matrix.

Sorts	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
P1	0.7855	0.1089	0.4498	-0.2512	0.1775
P2	0.8381	-0.0726	0.1665	0.1211	0.4064
P3	0.8069	-0.2255	-0.1309	-0.2742	-0.1276
P4	0.7557	-0.2383	0.2032	0.5267	-0.1549
P5	0.8144	-0.3474	0.0939	-0.1817	-0.1395
P6	0.8748	0.1122	-0.2501	0.0284	0.0532
P7	0.8314	-0.2912	0.0175	-0.0241	-0.0928
P8	0.8104	0.0806	-0.453	0.0124	-0.1052
P9	0.7837	0.3919	-0.2863	0.0678	0.2016
P10	0.5968	0.6563	0.2993	-0.0016	-0.3161
Eigenvalues	6.2885	0.9336	0.7369	0.4694	0.4195
% explained variance	63	9	7	5	4

Following the eigenvalue guideline, factor one is clearly indicated, and factor two is very close to the 1.0 value. However, based on the pre-training factor loadings, eigenvalues were not very helpful for the number of participants in the current study. A look at significant loadings

indicates that a three factor solution would be valid, even though the third factor only has one

significant loading and that is confounded with factor one, which has the higher loading.

Because the third factor does not have a sort with a high loading on it, a two factor solution looks

more plausible. The first two factors are selected for manual rotation, with particular attention to

participant 10 who is confounded but loading higher onto factor two than any of the other

participants.

Figure 28 shows the rotation of the two factors (factors one and two) in the post-training

analysis at time *0* and time *1*. The goal of this rotation was to see if participant ten could load

onto a factor, to try and eliminate the confounding of participant nine, and generally to keep high

loadings on as many other sorts as possible.

	1_0	2_0
P1	**0.79x**	0.11
P2	**0.84x**	-0.07
P3	**0.81x**	-0.23
P4	**0.76x**	-0.24
P5	**0.81x**	-0.35
P6	**0.87x**	0.11
P7	**0.83x**	-0.29
P8	**0.81x**	0.08
P9	**0.78x**	0.39
P10	0.6	0.66

	1_1	2_1
P1	**0.68x**	0.41
P2	**.80x**	0.26
P3	**.83x**	0.11
P4	**.79x**	0.08
P5	**.89x**	0
P6	**.76x**	0.45
P7	**.88x**	0.06
P8	**.71x**	0.39
P9	0.57	**.67x**
P10	0.29	**.84x**
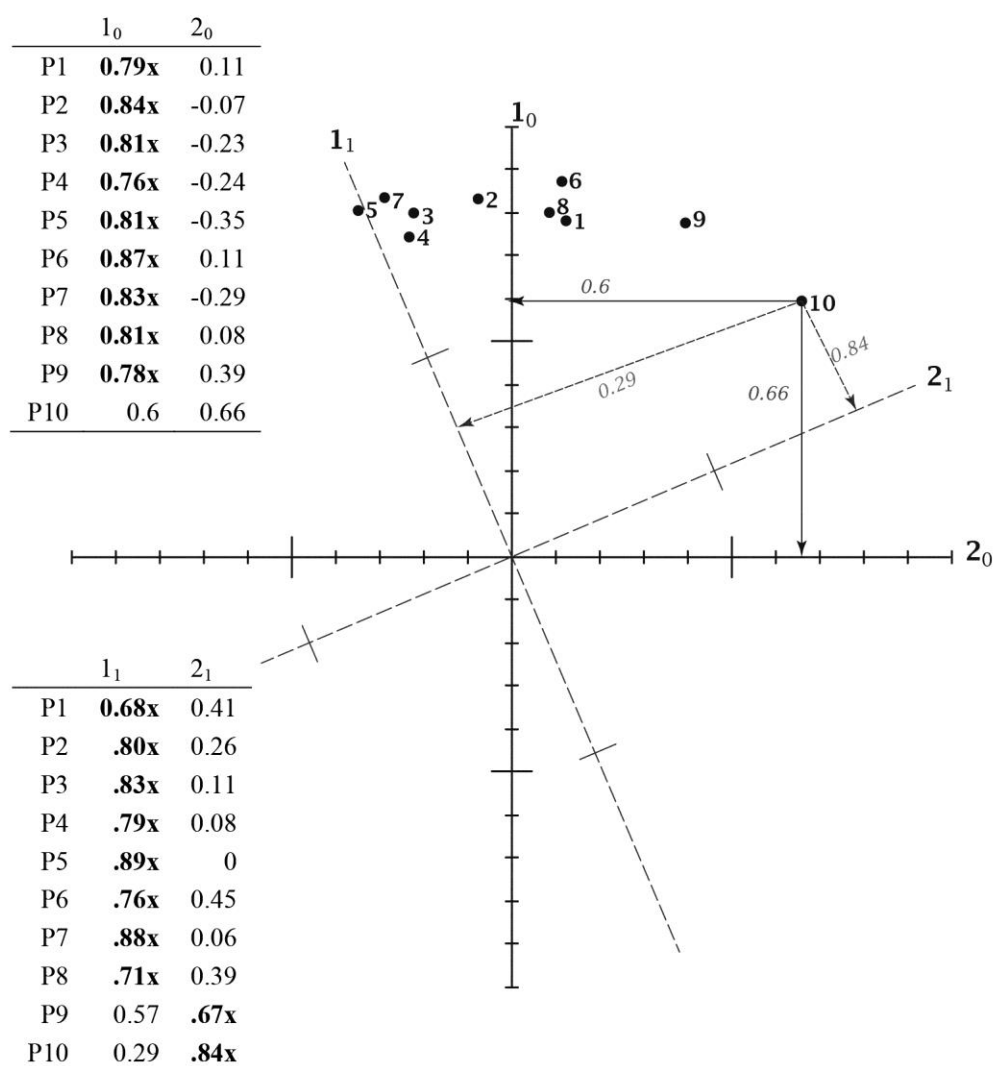
Figure 28. Post-training manual rotation between factors one and two with charts showing the changes in factor loadings.

The analysis resulted in the adoption of a two-factor solution representing clusters of individuals whose perspectives on conflict resolution were similar at the end of the mediation training. All ten sorts were represented in the factor solution. Eight out of ten participants had significant loadings onto one of the two factors at the $p < .01$ level. The remaining 2 of the 10 sorts had confounding values but nevertheless loaded onto one of each of the two factors when pre-flagging was selected through the PQMethod software program. The party-oriented,

facilitative broad perspective (factor Post 1) accounted for the greatest amount of explained

variance (55%) in the post-training Q sort (Table 18).

Table 18

Post-Training Factor Loadings.

Q Sort	Post 1	Post 2	
P1	**.68X**	0.41	
P2	**.80X**	0.26	
P3	**.83X**	0.11	
P4	**.79X**	0.08	
P5	**.89X**	-0.002	
P6	**.76X**	0.45	
P7	**.88X**	0.06	
P8	**.71X**	0.39	
P9	0.57	**.67X**	
P10	0.3	**.84X**	
explained variance	55%	18%	Total 73%

Note. Q sorts that define a particular factor are bold and marked with an X.

Eight participants (1, 2, 3, 4, 5, 6, 7, and 8) loaded onto post-training factor 1 at a level of

significance greater than .43 ($p < .01$), with one of the eight participants sharing a loading on the

second factor over the significance level, at 0.45 (P6). The process-oriented, facilitative narrow

(factor Post 2) accounted for 18% of explained variance. Two participants (9 and 10) loaded

onto this factor at a level of significance greater than .43 ($p < .01$), with one of the two

participants sharing a loading on the first factor over the significance level, at .57. The two post-

training perspectives were defined by 11 distinguishing statements associated at a confidence

level of 95% ($p < .05$). Eight of the 11 statements were significant to the 99% confidence level

($p < .01$) (Table 19).

Table 19

Distinguishing Statements for all Factors (Post 1 and Post 2) of the Post-Training Q Sorts

No.	Statement	Factor Arrays	
		Post 1	Post 2
1	Emotions get in the way of effective conflict resolution.	0**	3
7	Mediators should protect people's rights in the mediation process.	1**	-2
10	It's important to tell parties the most likely outcome for their problem.	-2**	-5
11	A mediator's ability to see the best answers for a problem is important.	-2**	0
12	Mediators should encourage parties to explore underlying emotions.	2*	0
16	In mediation, the law is not as relevant as underlying issues.	0*	-2
23	Mediators should let parties know who they think has the better argument.	-4*	-2
26	An important role of the mediator is to balance the power between parties.	4**	-1
30	Mediators should encourage parties to compromise in order to reach an agreement.	-3***	3
31	Winning is important.	-3***	1
35	Parties need to be provided with a clear process to resolve their conflict.	2**	0

* Distinguishing statements associated at a confidence level of 95% ($p < .05$).
** Distinguishing statements associated at a confidence level of 99% ($p < .01$).

Post-Training Factor 1: Party-Oriented, Facilitative Broad

Eight out of ten participants (80%) loaded onto the perspective represented by post-training factor 1, including five males and three females. A narrative description was created based on data obtained from the distinguishing statements, the top three *most agree* anchor statements, the bottom three *most disagree* anchor statements, and the responses of participants in the post-sort questionnaire explaining their ranking choices (Table 20). This information contributed to the labeling of this factor as *party-oriented, facilitative broad.* The distinguishing statements for this factor indicated disagreement with the other grouping (Post 2) regarding the role of emotions and underlying issues (statements 1, 12, and 16).

Table 20
Factor Post 1: Party-Oriented, Facilitative Broad

Ranking	Statements	Theoretical Category	Participants' Remarks on Positive Statements	Participants' Remarks on Negative Statements
5	5. The ability to build trust and rapport is important to be an effective mediator.	Facilitative	"Trust is critical when parties are sharing confidential information and exploring values"; "mediator's role is to facilitate a resolution that the parties own themselves and not to control the outcome"; "parties need to own the solution"; "primary purpose of mediation is to help parties find what works for them"; "the mediator is the guide and helper; parties find their own answers"; "trust and good listening skills are critical for effective mediation."	"Evaluating legal issues taints the mediation process"; "my idea of the best answer may not be the same as that of the parties; this can also compromise neutrality"; "it is unethical to give legal advice, especially if I don't have the professional background to do so"; "neutrality is paramount to successful conflict resolution."
4	36. My ability to guide parties to find their own answers is important.	Facilitative		
4	26. It's important for a mediator to help parties think of creative solutions for their problems.	Facilitative		
-5	4. A mediator should evaluate legal issues for parties if they need it.	Evaluative		
-4	11. A mediator's ability to see the best answers for a problem is important.	Evaluative		
-4	10. It's important to tell parties the most likely outcome for their problem.	Evaluative		

Note. Contributors to the factor: P1, P2, P3, P4, P5, P6, P7, P8.

All of the *most agree* statements for the party-oriented, facilitative broad perspective (factor Post 1) were facilitative statements. All of the *most disagree* statements were evaluative statements. The sort that defined this perspective had the greatest agreement with the following anchor statements:

1. "The ability to build trust and rapport is important to be an effective mediator" (5).

2. "My ability to guide parties to find their own answers is important" (36).

3. "It's important for a mediator to help parties think of creative solutions for their problems" (26).

The anchor statements with the greatest disagreement included the following statements:

1. "A mediator should evaluate legal issues for parties if they need it" (4).

2. "A mediator's ability to see the best answers for a problem is important" (11).

3. "It's important to tell parties the most likely outcome for their problem" (10).

The post-sort questionnaire responses of participants who loaded onto this factor depicted a very party-oriented mediator working from a broad facilitative perspective. Quotes from the questionnaire illustrated this perspective: "The mediator's role is to facilitate a resolution that the parties' own themselves and not to control the outcome"; "The mediator is the guide and helper for parties to find their own answers."

Post-Training Factor 2: Process-Oriented, Facilitative Narrow

Two out of ten participants loaded onto the perspective represented by post-training factor 2, including two males. A narrative description was created based on the distinguishing statements separating Post 1 and Post 2, the top three *most agree* anchor statements, the bottom three *most disagree* anchor statements, and the responses of participants in the post-sort questionnaire explaining their ranking choices. This information contributed to the labeling of this factor as

process-oriented, facilitative narrow. The emphasis that the party-oriented, facilitative broad perspective group placed on compromise to achieve agreement in service of the process (statement 3) as opposed to a greater concern with the parties (statements 26 and 12) provided key data for the factor description.

All of the *most agree* statements for the process-oriented, facilitative narrow perspective (factor Post 2) were facilitative, with one statement further classified as broad and another as narrow. The statements with responses of *most disagree* from this perspective were evaluative and adversarial. The sort that defined this perspective had the greatest agreement with the following anchor statements:

1. "A successful mediation should end with a written agreement between parties" (8).

2. "Mediators should encourage parties to see their problem from multiple viewpoints" (6).

3. "My ability to guide parties to find their own answers is important" (36).

The anchor statements with the greatest disagreement included:

1. "It's important to tell parties the most likely outcome for their problem" (10).

2. "Mediators should encourage parties to ask for more than they expect in anticipation of compromise" (25).

3. "A mediator should evaluate legal issues for parties if they need it" (4).

The post-sort questionnaire responses of participants who loaded onto the process-oriented, facilitative narrow perspective suggested that they had a lack of comfort with emotions in the mediation arena, and focused greater attention to the logical and task-oriented aspects of the process to guide more of a narrow facilitative process. Quotes from the questionnaire illustrated this perspective: "I am a task-oriented lawyer"; "Emotion can impede rational thought, which is crucial to conflict resolution." Table 21 summarizes this data.

Table 21
Factor Post 2: Process-Oriented, Facilitative Narrow

Ranking	Statements	Theoretical Category	Participants' Remarks on Positive Statements	Participants' Remarks on Negative Statements
5	8. A successful mediation should end with a written agreement between parties.	Narrow (Facilitative or Evaluative)	"A sense of agency and willingness to agree to terms is much greater in self-realized solutions"; "emotion can impede rational thought, which is crucial to conflict resolution"; "ending with an agreement is a clear goal of mediation."	"Telling parties the most likely outcome implies bias and judgment"; telling parties the most likely outcome has been discouraged in class as legal advice or not being neutral"; "mediators can't act as lawyers."
4	6. Mediators should encourage parties to see their problem from multiple viewpoints.	Facilitative Broad		
4	36. My ability to guide parties to find their own answers is important.	Facilitative		
-5	10. It's important to tell parties the most likely outcome for their problem.	Evaluative		
-4	25. Mediators should encourage parties to ask for more than they expect in anticipation of compromise.	Adversarial		
-4	4. A mediator should evaluate legal issues for parties if they need it.	Evaluative		

Note. Contributors to the factor: P9, P10.

Overview of Pre-Training and Post-Training Q Sort Comparison

The comparison of the pre-training and post-training Q sort results was done in two stages. First, the final factors from the pre-training and post-training Q sorts were Q analyzed to determine if significant perspective factors emerged. Second, individual membership in the pre- and post-factor solutions was compared theoretically and statistically.

The raw data from participants' post-training Q sorts was entered into the PQMethod 2.20 (Schmlock, 2002) software program by the researcher. The resulting correlation matrix is shown in Table 22. The idealized Q sorts that comprised each factor in the pre-training Q sort and the post-training Q sort were input to the PQMethod 2.20 computer program to identify any groupings or factors that might emerge.

Table 22

Original Correlations Comparing Pre and Post Factors.

Sorts	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Pre 1	100	46	59	84	67
Pre 2	46	100	40	49	60
Pre 3	59	40	100	65	56
Post 1	84	49	65	100	61
Post 2	67	60	56	61	100

The correlation matrix indicates the relationship that each Q sort has with every other Q sort in the analysis. The Q sorts used in this second-order factor analysis were the idealized Q sorts for the factors from the pre-training Q sorts and the post-training Q sorts. Values in Table 22 are presented as whole numbers but represent percentages, so that each sort has 100% correlation with itself. Higher numbers indicate greater commonality and lower numbers indicate lesser commonality. The correlation matrix provides the raw data for the factor analysis which followed. For the compare-training factors, the researcher's assumption was that

theoretically similar factors would group together, pulling evaluative and narrow groupings together, and pulling the facilitative broad groupings together. Centroid factor analysis used to analyze the pre-training Q sorts. Table 23 shows the loadings for four extracted factors prior to rotation.

Table 23

Unrotated Factor Matrix Comparing Pre and Post Factor Loadings Between Sorts.

Sorts	Factor 1	Factor 2	Factor 3	Factor 4	Factor 5
Pre 1	0.8804	-0.2243	-0.3281	-0.0145	-0.2582
Pre 2	0.6988	0.6615	0.0551	-0.2641	-0.036
Pre 3	0.7801	-0.2874	0.5508	-0.0478	-0.0558
Post 1	0.8881	-0.2529	-0.1961	-0.1994	0.2627
Post 2	0.8406	0.219	-0.0061	0.4897	0.0745
Eigenvalues	3.3675	0.6825	0.4526	0.3518	0.1456
% explained variance	67	14	9	7	3

Based on the eignevalues from the unrotated factor matrix after centroid factor analysis, only one factor is indicated. Based on the significant loadings criteria, at least two sorts loaded onto one factor, but only one sort loaded on each of the next three factors, with some confounding. Two factors were selected for rotation to produce the best fit factor loadings. After one rotation of negative 41 degrees between the two extracted factors, a best fit solution was found. The analysis resulted in the adoption of a two-factor solution (identified as Compare 1 and Compare 2) with five out of five significant loadings of at least .43 at the $p < .01$ level, including one sort loading at .72 on factor Compare 2 with a confounding loading of .49 on factor Compare 1. The resulting two factors accounted for all pre-training factors and post-training factors, and represented the clusters of factors whose perspectives on conflict resolution were similar, regardless of whether or not they were established before or after training. These two factors represent 81% of the total explained variance (Table 24).

Table 24

Compare Trainings Factor Loadings.

Q Sort	Compare 1	Compare 2	
Pre 1	**.81X**	0.41	
Pre 2	0.09	**.96X**	
Pre 3	**.78X**	0.3	
Post 1	**.84X**	0.4	
Post 2	0.49	**.72X**	
explained variance	44%	37%	Total 81%

Note. Q sorts that define a particular factor are bold and marked with an X.

The first factor, Compare 1, accounted for the greatest amount of explained variance (44%) (Table 25). Three sorts loaded onto this factor at a level of significance greater than .43 ($p < .01$). Factor Compare 1 had 12 distinguishing statements associated at a confidence level of 95% ($p < .05$). Nine of the 12 statements were significant to the 99% confidence level ($p < .01$). The second factor, Compare 2, accounted for 37% of explained variance. Two sorts loaded onto this factor at a level of significance greater than .43 ($p < .01$). One of the two sorts loading onto this factor was slightly confounded with a corresponding loading of .49 onto the other factor, but a strong loading of .72 on factor Compare 2 (Table 25).

Table 25

Distinguishing Statements for all Factors (Compare 1 and Compare 2) from the compare trainings Q sorts

		Factor Arrays	
No.	Statement	1	2
2	To solve a problem effectively, a mediator needs subject matter expertise.	-1*	4
3	Knowing the law is important to be an effective mediator.	-2*	1
7	Mediators should protect people's rights in the mediation process.	1*	-3
10	It's important to tell parties the most likely outcome for their problem.	-3	-1
12	Mediators should encourage parties to explore underlying emotions.	1*	-2
13	Successful conflict resolution solves the problem between parties.	0*	-4
15	It's important to tell parties the strengths and weaknesses of their positions.	-2*	2
16	In mediation, the law is not as relevant as underlying issues.	0	-2
25	Mediators should encourage parties to ask for more than they expect in anticipation of compromise.	-4	-2
26	An important role of the mediator is to balance the power between parties.	2*	-2
30	Mediators should encourage parties to compromise in order to reach an agreement.	-1*	3
31	Winning is important.	-3*	0

Note: Distinguishing statements associated at a confidence level of 95% ($p < .05$).
* Distinguishing statements associated at a confidence level of 99% ($p < .01$).

Factor Compare 1: Facilitative Broad, Party-Oriented Perspective

A narrative description was created for this perspective and labeled *facilitative broad, party-oriented* based on the top three *most agree* anchor statements, and the bottom three *most disagree* anchor statements, in addition to the data obtained from the distinguishing statements for factor Compare 1. Because this analysis involved the input of idealized sorts resulting from the factor analysis of the original participants' sorts, there were no additional comments to include in the analysis except for the original comments provided in the initial sorts and used to create the factor profiles for the pre-training and post-training sorts. This facilitative broad, party-oriented perspective included three of the five sorts: encouragers/facilitative broad (factor Pre 1), logical and practical/facilitative narrow (factor Pre 3), and party-oriented/facilitative broad (factor Post 1).

The sort that defined this perspective had the greatest agreement with the following anchor statements:

1. "The ability to build trust and rapport is important to be an effective mediator" (5).

2. "My ability to guide parties to find their own answers is important" (36).

3. "Mediators should encourage parties to see their problem from multiple viewpoints" (6).

The sort that defined Compare 1 had the greatest disagreement with the following anchor statements:

1. "In analyzing problems, there is usually a right and a wrong response" (34).

2. "Mediators should encourage parties to ask for more than they expect in anticipation of compromise" (25).

3. "People in conflict need a strong hand to guide them" (33).

All of the "most agree" statements for this perspective were facilitative statements. All of the

"most disagree" statements for this perspective were adversarial statements, with two identified

as either adversarial or evaluative. Table 26 summarizes this data.

Table 26

Factor Compare 1: Facilitative Broad, Party-Oriented Perspective.

Ranking	Statements	Theoretical Category
5	5. The ability to build trust and rapport is important to be an effective mediator.	Facilitative
4	36. My ability to guide parties to find their own answers is important.	Facilitative
4	6. Mediators should encourage parties to see their problem from multiple viewpoints.	Facilitative
-5	33. People in conflict need a strong hand to guide them.	Adversarial/ Evaluative
-4	25. Mediators should encourage parties to ask for more than they expect in anticipation of compromise.	Evaluative
-4	34. In analyzing problems, there is usually a right and a wrong response.	Adversarial/ Evaluative

Note. Contributors to the factor: Pre 1, Pre 3, Post 1.

Factor Compare 2: Facilitative Narrow with Evaluative Leanings

In addition to the data obtained from the distinguishing statements for factor Compare 2, a

narrative description was created for this perspective and named *facilitative narrow with*

evaluative leanings based on the top three *most agree* anchor statements, and the bottom three

most disagree anchor statements. Because this analysis involved the input of idealized sorts

resulting from the factor analysis of the original participants' sorts, there were no additional

comments to include in the analysis except for the original comments provided in the initial sorts and used to create the factor profiles for the pre-training and post-training sorts. Factor Compare 2 included 2 of the 5 sorts: Pre 2 and Post 2.

The sort that defined factor Compare 2 had the greatest agreement with the following anchor statements:

1. "The ability to build trust and rapport is important to be an effective mediator" (5).

2. "Mediators should encourage parties to see their problem from multiple viewpoints" (6).

3. "To solve a problem effectively, a mediator needs subject matter expertise" (2).

The sort that defined factor Compare 2 had the greatest disagreement with the following anchor statements:

1. "In analyzing problems, there is usually a right and a wrong response" (34).

2. "Successful conflict resolution solves the problem between parties" (13).

3. "Mediators should let parties know who they think has the better argument" (23).

Two of the three "most agree" statements for factor Compare 2 were facilitative, one of the two facilitative statements was facilitative broad, and the final statement was evaluative narrow. All of the "most disagree" statements for factor Compare 2 were evaluative or adversarial statements, with one identified as either adversarial or evaluative, and one identified as narrow and either evaluative or facilitative. Table 27 summarizes this data.

Table 27

Factor Compare 2: Facilitative Narrow with Evaluative Leanings.

Ranking	Statements	Theoretical Category
5	5. The ability to build trust and rapport is important to be an effective mediator.	Facilitative
4	6. Mediators should encourage parties to see their problem from multiple viewpoints.	Facilitative Broad
4	2. To solve a problem effectively, a mediator needs subject matter expertise.	Evaluative Narrow
-5	23. Mediators should let parties know who they think has the better argument.	Evaluative
-4	13. Successful conflict resolution solves the problem between parties.	Narrow (Evaluative/ Facilitative)
-4	34. In analyzing problems, there is usually a right and a wrong response.	Adversarial/ Evaluative

Note. Contributors to the factor: the idealized Q sorts from pre-training perspective 2, and post-training perspective 2.

Individual Membership in All Factors

Figure 29 shows the individual membership within the pre-training and post-training factors, and the movement of each individual's sort from the pre-training to the post-training analysis. The lower portion of Figure 29 shows the composition of the factors that compare the pre-training and post-training sorts, indicating that factor Compare 1 is comprised of the idealized sorts, or factors, form Pre 1, Pre 3, and Post 1, whereas factor Compare 2 is comprised of the idealized sorts, or factors, from Pre 2 and Post 2.
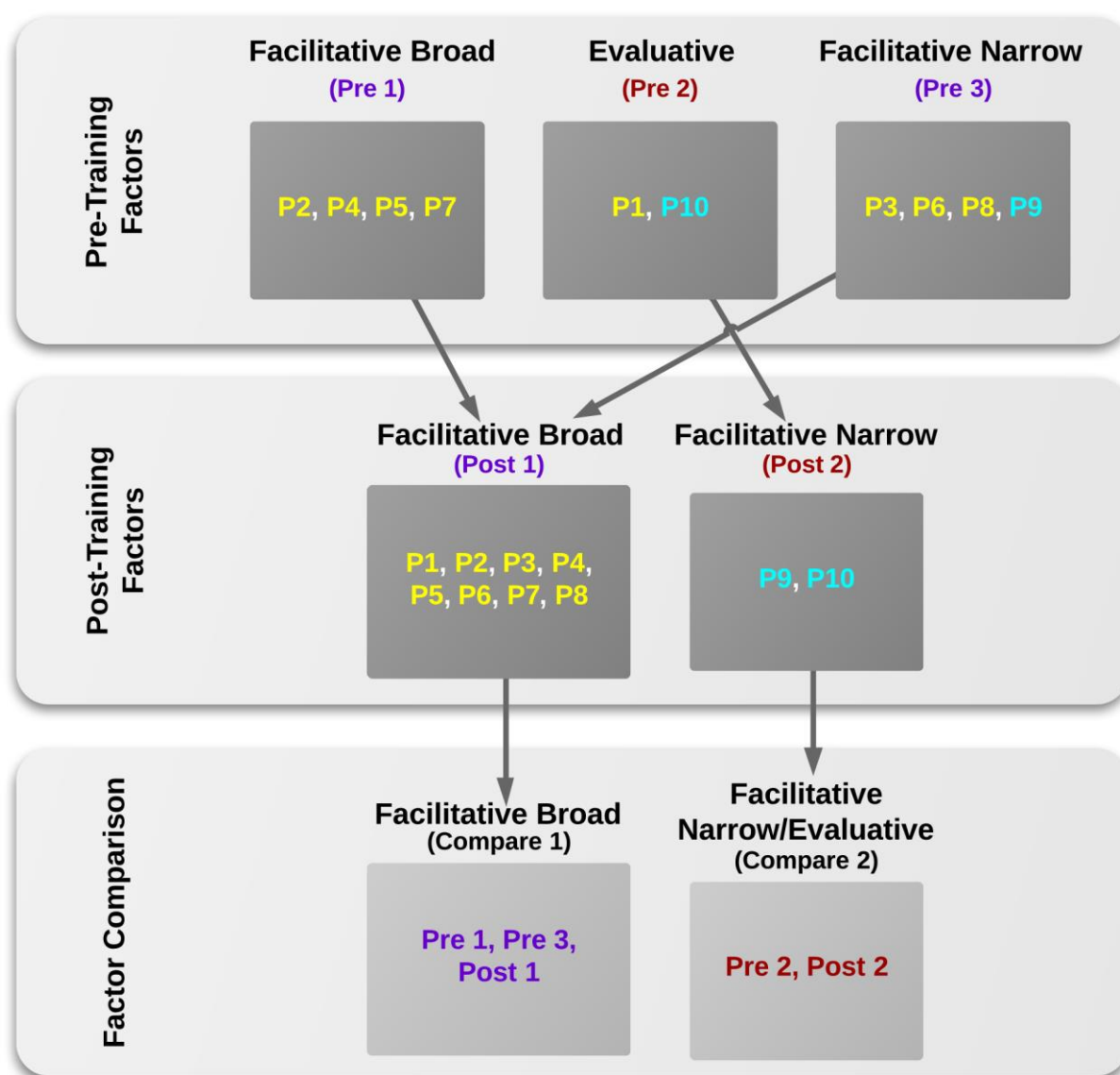
Figure 29. Individual membership in pre-training and post-training factors as they contribute to the Compare trainings factors.

Individual Participant Pre-Training and Post-Training Comparisons

Determining whether an individual's perspective changed can be done by observing whether there was a theoretical change in the factor loading, or calculating whether or not a statistically significant change occurred within a factor. The pre-training analysis yielded three factors and the post-training analysis yielded only two factors. Although there was not exact

equivalence between the factors that emerged pre-training and post-training, there were theoretical points in common that could be useful in determining whether or not a person changed perspectives by virtue of the distinctions in factor associations. The pre-training factor 1 labeled *encouragers with facilitative tendencies* has an affinity with the post-training factor 1 labeled *party-oriented, facilitative broad*. The pre-training factor 3 labeled *logical and practical with a narrow facilitative approach* has an affinity with the post-training factor 2 labeled *process-oriented, facilitative narrow*. The pre-training factor 2 labeled *expert guides with evaluative leanings* fell out of the post-training perspectives and has no equivalence in the post-training perspectives. The pre-training perspectives can be summarized, from the theoretical framework of this study, as facilitative broad (Pre 1, Post 1), facilitative narrow (Pre 3, Post 2), and evaluative (Pre 2). Therefore, participants who moved between the broad facilitative, narrow facilitative and evaluative perspectives could be said to have changed perspectives from a theoretical perspective, without further attention to statistically significant changes in the correlations between their sorts. However, all theoretical changes did have statistically significant changes as well.

  Theoretical changes for individuals. Five out of ten of the participants had an observable change in factors from the pre-training to the post-training measurements based on the theoretical names of the perspectives. Five out of ten of the participants continued to identify with similar perspectives from pre-training to post-training measurements based on the theoretical names of the perspectives. In these five cases, statistically significant changes were calculated for four participants. Two participants indicated through self-report that they did not experience change. One of these two participants did not show an observable theoretical perspective change or a statistically significant change. This participant had previous experience

with mediation training. However, the other participant who reported no change did exhibit a

theoretical and a statistically significant change (Table 28).

Table 28

Pre-Training and Post-Training Perspectives with Measured and Self-Report Change.

Participant	Pre-Training Perspective	Post-Training Perspective	Measured Change	Self-report change
1	evaluative	facilitative broad	T, S	yes
2	facilitative broad	facilitative broad	S	yes
3	facilitative narrow	facilitative broad	T, S	yes
4	facilitative broad	facilitative broad	S	yes
5	facilitative broad	facilitative broad	--	no
6	facilitative narrow	facilitative broad	T, S	yes
7	facilitative broad	facilitative broad	S	yes
8	facilitative narrow	facilitative broad	T, S	yes
9	facilitative narrow	facilitative narrow	S	yes
10	evaluative	facilitative narrow	T, S	no

Note. T = theoretical change; S = statistical change.

Statistical changes for individuals. In instances where there is no visible theoretical

change in perspective in terms of movement between factors, there may still be a statistical

change within a factor identity. Reliability coefficients of a person with himself normally range

from .80 upward (Brown, 1980; Frank, 1956; Steller & Meurer, 1974). Therefore, if the

correlation score between a person's Q sort at time 1 and time 2 is less than .80, a statistically

significant change can be said to have occurred. Because the factors that were created from time

1 to time 2, namely the pre-training Q sorts and the post-training Q sorts, were not the exactly the

same, the mere movement of individuals between the sorts cannot fully explain whether or not

their individual Q sorts before and after training indicate a statistically significant change in perspective. Comparisons of individual participants' pre-training and post-training Q sorts were obtained by conducting a Q sort analysis for each participant, with each participant's pre-training sort and post-training sort serving as the two entries into the P set. Table 29 shows the correlation between the sorts for each participant, as well as the distinguishing statements, which indicate which statements are statistically significant at $p < .01$. Nine out of ten of the participants showed statistically significant $r < .80$ correlations, indicating a statistically significant change in their perspectives from time 1, the pre-training Q sort, and time 2, the post training Q sort (Table 29).

Table 29

Comparison of Individual Participants' Pre- and Post-Q Sorts

	Loadings		Correlation Between Sorts	Distinguishing Factors	Statistical Change r < .0.80	Self-Report of Change
	QSORT 1	QSORT 2				
P1 Pre	0.93X	0.37	0.69	15, 30, 4, 13	Yes	Yes
P1 Post	0.37	0.93X				
% expl. Variance	50	50				
P2 Pre	0.92X	0.4	0.72	28, 9	Yes	Yes
P2 Post	0.4	0.92X				
% expl. Variance	50	50				
P3 Pre	0.98X	0.17	0.34	27, 9, 30, 20, 36, 8, 29	Yes	Yes
P3 Post	0.17	0.98X				
% expl. Variance	50	50				
P4 Pre	0.92X	0.38	0.7	16, 26	Yes	Yes
P4 Post	0.38	0.92X				
% expl. Variance	50	50				
P5 Pre	0.46	0.89X	0.81	none	No	No
P5 Post	0.89X	0.46				
% expl. Variance	50	50				
P6 Pre	0.92X	0.4	0.75	1, 8	Yes	Yes
P6 Post	0.42	0.91X				
% expl. Variance	51	49				
P7 Pre	0.96X	0.28	0.55	30, 4, 11, 27, 26, 2	Yes	Yes
P7 Post	0.29	0.96X				
% expl. Variance	50	50				
P8 Pre	0.90X	0.45	0.8	14	No	Yes
P8 Post	0.45	0.90X				
% expl. Variance	50	50				
P9 Pre	0.92X	0.4	0.73	11	Yes	Yes
P9 Post	0.41	0.91X				
% expl. Variance	51	49				
P10 Pre	0.37	0.93X	0.68	8, 36, 10	Yes	No
P10 Post	0.93X	0.36				
% expl. Variance	51	49				

Research Question 1:

What perspectives on conflict do individuals entering into an initial mediation

certification course have?

Three perspectives on conflict resolution in mediation emerged from participants entering into the training course. The first perspective (Pre 1) was labeled *encouragers with broad facilitative tendencies*. This perspective consisted of four individuals whose responses indicated they approached conflict resolution from a facilitative perspective and valued the mediator as an encourager for parties. The second perspective (Pre 2) was labeled *expert guides with evaluative leanings*. This perspective consisted of two individuals whose responses indicated they approached conflict resolution from a more evaluative perspective and valued a mediator's subject matter expertise and knowledge of the law. The third perspective (Pre 3) was labeled *logical and practical with a narrow facilitative approach*. The logical and practical, narrow facilitative perspective consisted of four individuals who depicted conflict resolution from a facilitative approach that was less broad and more of a narrow orientation from the first group. Individuals in the third perspective emphasized the importance of taking a logical, unemotional, and practical approach to conflict resolution.

Research Question 2:

How do participants' professional experiences prior to an initial mediation certification course

relate to their perspectives on conflict at the start of training?

The results showed that prior to training, the individuals who had the most experience with mediation as a party or in previous training held a perspective most closely aligned with the perspective promoted in training. Pre-training group 1, the encouragers with facilitative tendencies, shared a facilitative perspective most closely aligned with the perspective promoted

in training. Their professional experience came from a variety of fields like medicine, academia, and management. In addition, the results showed that prior to training, the participants that held the perspective furthest from that promoted in the training (experts with evaluative leanings, Pre 2) were the two practicing attorneys. One of the practicing attorneys had the most experience with mediation of all the participants. This participant reported participating in over 100 mediations. However, this participant's experience was not as a mediator or a party to mediation but as an attorney. The law school faculty member did not group with the practicing attorneys in an evaluative perspective, but loaded onto the most facilitative of the factors from pre-training.

The perspective most identified with problem solving that was not related to evaluative or adversarial litigation practices prior to training was populated by participants with no mediation experience. This group, categorized as narrow facilitative, had some members from fields that emphasize the logical and the practical aspects of problem solving, like math and business. Table 30 shows the professional experience of individuals, as gathered through self-report in the initial pre-training questionnaire, and who loaded onto each factor.

Table 30

Pre-Training Factor Loadings Compared to Professional and Previous Mediation Experience.

Factor Loading	Sex	Profession	Mediation Experience
	M	Law School Faculty	None
	M	Doctor	Party in a mediation
Factor 1: Encouragers/ Facilitative	F	Communication Manager	Experience with mediation training and as a party in mediation
	F	Social Science Graduate Student	None
Factor 2: Experts/ Evaluative	M	Attorney	None
	M	Attorney	Attorney in over 100 mediations
	F	Travel Consultant	None
Factor 3: Logical and Practical/Narrow Facilitative	M	Retired High School Math Teacher	None
	M	Business Professor	None
	M	Recent College Graduate	None

Research Question 3:

How do participants' perspectives on conflict change at the end of an initial mediation certification course?

The three perspectives that emerged prior to the start of training were reduced to two

perspectives at the end of training. The final two perspectives at the end of training had greater

alignment with the facilitative learning goals of the mediation course. The evaluative

perspective of factor Pre 2 (expert guides with evaluative leanings) did not appear as a perspective in the post-training Q sort analysis. Instead, two facilitative perspectives emerged:

1. a facilitative broad perspective with an emphasis on addressing the needs of the parties, named *party-oriented, facilitative broad* (Post 1);

2. a facilitative narrow perspective with an emphasis on the importance of process in mediation, named *process-oriented, facilitative narrow* (Post 2).

The post-training factor scores of 5 out of 10 participants reflected a theoretical change and 9 of the 10 participants reflected a statistically significant change in perspective from the groupings that formed before training began. Changes were indicated either by loading onto a different perspective group or by statistically significant changes in loadings within a perspective group. Only 1 of the 10 participants showed no theoretical or statistical change in perspective The participant who showed no theoretical or statistical change in perspective began the training with a facilitative perspective, and had previously experience mediation training before.

Research Question 4:

What change in perspective do mediation training participants claim is most significant upon completion of an initial mediation certification course?

Nine out of ten participants responded to the final questionnaire concerning what change they identified as most significant at the end of their training. Seven out of the nine participants responding reported having experienced change and two reported having experienced no change. These changes identified the facilitative principles of the mediation training, including a focus on extra-legal issues and solutions related to underlying motives, emotions, and relationships; and recognition of the mediator's role as a guide for party self-determination rather than someone who presents solutions (Table 31).

Participants 1, 2, and 3 provided comments showing that their change had to do with understanding mediation with a focus on the extra-legal issues such as, "exploring underlying motives, and maintaining relationships", "appreciating the capacity of mediation to broaden a conflict and address extra-legal issues and solutions", and "address[ing] feelings behind conflict that the legal arena does not." Participant 3 also reported a change in understanding of the importance of following the rules and standards of neutrality for mediation, which is also a key component of the ethics regulations associated with the practice of court-connected mediation.

Table 31

Perspective Change as Self-Reported by Participants.

Participant	Change	Most significant perspective change identified by participant
1	yes	seeing mediation differently with more of a focus on facilitation, exploring underlying motives, and maintaining relationships
2	yes	appreciating the capacity of mediation to broaden a conflict and address extra-legal issues and solutions
3	yes	mediation has standards and rules for neutrality; mediation helps address feelings behind conflict that the legal arena does not
5	no	
6	yes	change from seeing the mediator's job to listen and offer insight and suggestions, to drawing out solutions from the parties
7	yes	understanding of compromise and its role in mediation changed; no longer think the goal of mediation is to help parties reach a compromise
8	yes	gained confidence that I could serve as a mediator
9	yes	mediators don't solve the problem for people, but are as hands off as they are supposed to be
10	no	None

Note. Participant 4 did not complete the questionnaire and therefore has no data to report.

Participants 3, 6, 7, and 9 provided comments that showed their change had to do with understanding the mediator's role as a guide for party self-determination rather than as someone who provides solutions and guides parties to the resolution that the mediator sees as best. These participants described their revised view of a mediator from someone who "offer[s] insight and suggestions" to someone focused on "drawing out solutions from the parties." One person in this group explained "[I] no longer think the goal of mediation is to help parties reach a compromise," and another reported that the new viewpoint recognizes that "mediators don't solve the problem for people." Participant 8 reported a change that had to do with gaining confidence to become a mediator.

Research Question 5:

What aspect of the training do participants identify as having the greatest impact on their change?

Nine out of ten participants completed the final questionnaire to report what their understanding of their change was and what they thought contributed to the change. Seven out of the nine participants completing the final questionnaire reported having experienced a change, and credited the trainer, role play activities, and debriefing exercises as the most significant aspects contributing to that change. The self-report of change matched the measured change (the theoretical and statistical analysis of change) in all but one instance, namely participant 10. Participant 10 self-reported no change in perspective, but did have a measured change in both a statistically significant perspective change, and a theoretical perspective change. Participant 10 moved from an affiliation with an evaluative perspective at the start of training to an affiliation with a facilitative narrow perspective at the end of training. Participant 4 was not included due to the lack of self-report data (Table 32).

Table 32

Participants' Responses to Post-Training Questions about Changes in Their Perspectives.

Participants' Responses to Post-Training Questions about Change in Their Perspective.

Ranking	Reported Change	Measured Change	Aspect Contributing to Change
1	Yes	Yes	*Trainer's comments on compromise* "Probably [the trainer's] comment that compromise is for losers. I was involved in a mediation this past week where the mediator, in his opening remarks, likened the process to buying a car and haggling over the price. While the mediations I am involved in usually don't amount to much more than that, I learned from this class that mediation can be much more. The whole class changed my attitude, and I cannot pinpoint one activity or aspect. But [the trainer's] comment really sums it up."
2	Yes	Yes	*Role play activities* "Nothing in particular, but more the whole process and repetition of role-playing."
3	Yes	Yes	*Role play activities* "The role-play was a very important tool in showing how one as a mediator can get at what each party feels; understanding how the rules should be used was very different than I would have thought until I had a chance to go through the process during class. If there was one thing that I wished could have happened it would have been to have had a chance to play the part as the mediator more than once. Never knowing and using the neutral position as the mediator, and the confidentiality piece gave me a broader understanding of the mediator's role. It definitely hit home when [trainer] spoke of using it for the Blended Family. I also saw it in the role of Restorative Justice. A very informative class and definitely worth the time spent in getting into the process."
4	--	Yes	*[did not complete]*
5	No	No	*[no change to report]*

Ranking	Reported Change	Measured Change	Aspect Contributing to Change
6	Yes	Yes	*Trainer* "The trainer. [The trainer] was invaluable!"
7	Yes	Yes	*Trainer's comments on compromise; role play activities* "There were two activities that had a great impact on my change of perspective. The first was when [the trainer] explained compromise, needs, BATNA, WATNA, and MLANTA. The second was the role-play activity. During the role-play, [the trainer] gave excellent feedback that helped me link practice with the information [the trainer] had given us earlier."
8	Yes	Yes	*Role play and debriefing activities* "Role-playing was very helpful in seeing how both the mediator and the conflicting parties might be engaged by the process. Secondly, the debriefing after each type of activity was very beneficial and helped me see things from the differing perspectives of other participants. Beforehand, I did not think about the several important professional guidelines that a mediator must observe (e.g., the confidentiality, the neutrality, the fact that the process was voluntary and that the agreement is about the two parties and not about me as a mediator). Now I see the profession in a more expanded view."
9	Yes	Yes	*Everything* "Technically everything; the entire process clarified the mediator's role in my mind."
10	No	Yes	*[no change to report]*

Note. Participant 4 did not complete the questionnaire.

Chapter 4 presented the analysis results of the investigation into the perspectives that participants in an initial mediation certification course share before and after the training intervention. The results of the analysis for the five research questions indicated the following:

1. Three perspectives regarding conflict resolution were identified in the ten participants at the outset of an initial mediation certification course.

2. Participants' professional experiences prior to an initial mediation certification course had some bearing on their perspectives on conflict at the start of training.

3. Nine out of ten participants in an initial mediation certification course had statistically significant changes in perspective, with five of those nine showing a theoretical change in perspective as well.

4. The changes in perspective that mediation training participants claim are most significant upon completion of the course reflect the facilitative principles of the training.

5. Participants claim that three main factors contribute to their perspective change upon completion of an initial mediation certification course, including the trainer, role play activities, and debriefing exercises.

CHAPTER 5:

DISCUSSION

Summary of Results

This study focused on perspective change in training with affective learning goals. The

problem identified was the need to provide empirical evidence that affective change can occur in

training using instructional strategies aligned with transformative learning theory for perspective

change. For the current study, the training intervention was chosen because it used instructional

strategies intended to promote a facilitative perspective toward conflict resolution. The

assumption was that people who came to training needed a change in perspective. This

assumption was supported by scholars in the field such as Alfini (2008), Guthrie (2001), and

Goldberg, Shaw, and Brett (2009) who identified lawyers, a key audience for the training, as

having difficulty in adopting the facilitative perspective required for mediation. The goals of this

study were to establish a way to identify the perspectives of individuals entering into the training,

to determine if there were any connections between the initial perspectives and professional

experience of participants, to identify the perspectives of participants at the end of the training, to

measure change in perspectives, and to ask participants what they thought may have contributed

to any change they experienced.

The first main analysis in this pre-post study was to ascertain the perspectives with which

individuals began training. This was done using Q methodology, a data collection and by-person

factor analysis process, which resulted in factors that represented the overall perspectives of

individuals who subjectively reacted in similar ways to statements regarding conflict resolution

as a mediator. This information helped to confirm a gap in the perspective that training sought to teach. In addition, this information named the perspectives that a specified group of trainees held at the start of training. Finally, this information was used to determine patterns related to the professional experience of participants to address a concern in the literature that some people, because of professional orientation to conflict resolution, have greater difficulty or an overall inability to adopt the perspective required of a mediator.

The second main analysis in this study focused on post-training results and comparing perspectives generated at the end of training with those established at the start of training. This was done by comparing the change in perspectives that emerged and the changes individuals had within those perspectives. Perspectives were obtained through by-person factor analysis using Q methodology. Perspectives were compared by identifying membership in each factor, and comparing the correlations each individual had within similar factors to determine if there was a statistically significant change for those that did not change theoretical factors.

The third and final analysis in this study focused on asking participants if they felt they experienced change, what that change was for them, and what they attributed that change to in the training. This information was interpreted using the theory of transformative learning as a lens for understanding adult learning leading to perspective change. The goal was to determine if the perspective change was identified by participants as resulting from transformative learning strategies used within the training.

Results from this study on perspective change may inform instructional design practices, specifically the development of training for perspective change in the context of mediation or other training with similar affective learning goals. Results from this study could inform the development of a more robust learner analysis tool specific to individuals in mediation trainings.

This learner analysis tool could be used by trainers to determine more specific needs for affective learning. Further, this study should contribute to an understanding of how to develop learner analysis and assessment tools to address specific perspective changes necessary in other trainings.

<div align="center">**Discussion of Results**</div>

Pre-Training Results

The results of this study indicated that:

1. three specific perspectives emerged from the pre-training analysis;

2. there was a gap related to the affective learning goal of adopting a facilitative perspective towards conflict resolution;

3. recognizable patterns from participants emerged regarding their professional experience and the perspectives they adopted toward conflict resolution prior to training.

The results of the initial Q sort activity and analysis revealed three distinct perspectives on conflict resolution. The condition of instruction asked participants to sort statements on conflict resolution as a mediator. The three perspectives that emerged included a profile of mediators as encouragers with facilitative tendencies, a profile of mediators as expert guides with an evaluative perspective, and a profile of mediators as logical and practical with a facilitative narrow approach. The pre-training data collection showed that the perspective most closely aligned with the training, the encouragers with facilitative tendencies, was shared by the individuals that had the most experience with mediation as a party or had previous training experience. The perspective furthest from the perspective promoted in the training was held by the two practicing attorneys.

The pre-training results confirmed that for this particular group there was a gap in the existing perceptions they held toward conflict resolution as a mediator and what the training proposed to teach. Even within the group of encouragers with facilitative tendencies there was room for change to align with the principles of facilitative mediation in the training. All but one of those individuals who aligned with the encouragers with facilitative tendencies perspective had a statistically significant change in their perspective to bring them closer to the facilitative perspective promoted in training. The one participant who did not have a theoretical or statistically significant change was the individual who had been both a party in mediation and had previously taken training for mediators. The individual who had the most experience with the kind of mediation promoted in the training did not have a need for a perspective change. However, closer inspection of changes in the way this participant ranked specific statements from the pre-training to the post-training Q sort revealed a shift in certain key ideas to a stronger facilitative perspective.

The results also confirmed that professional experience can have an impact on the perspective you bring to training, and possibly on the likelihood for that perspective to change through training. This study was particularly interested in seeing how the data collected confirmed or refuted the claim in the literature that lawyers have a difficult time adopting a mediator's facilitative perspective. Three out of the ten participants were lawyers; two of the three were practicing attorneys and one was a faculty member teaching in a law school. The faculty member identified with the facilitative perspective before training, but the two practicing attorneys identified with the evaluative perspective before training. These results suggested that practicing attorneys may have greater propensity to identify with perspectives further from the facilitative perspective promoted in mediation training.

Post-Training Results

The conceptual framework that training can help bring about perspective change was reflected in the results. The changes indicated an overall move toward the facilitative approach to conflict resolution promoted in the course. All of the participants not previously in alignment with the training (9 out of 10) moved closer to a perspective in alignment with the training. In addition, the one participant who did not move statistically closer to the facilitative broad perspective already held that perspective at the start of training. In that example, it is clear that not all participants in training needed a significant perspective change. However, even though this individual did not have a statistically significant change, and did not report experiencing change, the scores from this participant indicate a strengthening of agreement with facilitative statements like "In mediation, the law is not as relevant as underlying issues" (36), moving from a pre-training ranking of 1 to a post-training ranking of 4 (closer to *most agree*). In addition, this participant's post-training responses indicate more disagreement with evaluative statements like "A mediator should evaluate legal issues for parties if they need it" (4), moving from a pre-training ranking of -1 to a post-training ranking of -4 (closer to *most disagree*). The greater alignment of this participant's specific responses to the facilitative perspective indicated that the class did have the desired effect of helping align this participant's perspective closer to the perspective promoted in the training.

The aspects of the class that participants named as significant in their change of perspective included role-play, debriefing, and the trainer. Participants' comments supported the importance of experiential learning, reflective practices, and feedback. One participant expressed an interest in having the opportunity to play the role of mediator more than once, echoing results from the Raines, Hedeen, and Barton (2010) study. The role-play exercises in the course were

based on the recommendations of Maier (2002) and designed to allow participants to experience situations simultaneously, building off the responses of each party to determine the next step. Participants explained that the experience of role-play helped them apply the learning from the course and gave them a greater understanding of the material, and that the debriefing and feedback helped to connect the information in the course to the application in a live simulation: "The role-play was a very important tool in showing how one as a mediator can get at what each party feels; understanding how the rules should be used was very different than I would have thought until I had a chance to go through the process during class"; "During the role-play, [the trainer] gave excellent feedback that helped me link practice with the information [the trainer] had given us earlier." These comments on the importance of role-play to participants' perspective changes are supported by the theories of experiential learning (Kolb, 1984) and self-reflection (Schön, 1983), including reflection-on-action, when participants reflect during debriefing, and reflection-in-action, when participants reflect on their action or the action of participants during the role-play.

The significance of debriefing was identified by at least one participant as a reason for experiencing a perspective change, and suggested by others who mentioned time spent in the process and repetition of role-play activities. One participant shared that the debriefing "helped me see things from the differing perspectives of other participants." This suggested that the debriefing was more than just feedback from the coaches, but that it also entailed feedback from the participants, which is supported in the study by Nestel and Tierney (2007). The debriefing experiences allowed participants to discuss the experience of role-plays and reflect not only on what they experienced, but also what others in the class experienced.

One of the participants indicated that the trainer was a main cause of the perspective change, calling the trainer "invaluable." Not much else was said specifically by that individual, but others identified specific things the trainer said about the concept of compromise that changed their understanding of the purpose of mediation. Maresh (2000) emphasized the importance of the trainer in providing a model of behavior and creating an engaging environment for participants. Providing information in a way that participants can understand, supporting them in the experiential learning of putting these learned ideas into practice, and providing participants with appropriate, substantive, and actionable feedback is supported by the White and Agne (2009) study. In addition, two of the nine participants specifically stated that the trainer's comments on compromise were what triggered their change. The trainer made a provocative statement that compromise was for "losers," which caught participants' attention. This is an example of a disorienting dilemma, which usually is the first step and trigger to lead people into transformative learning. This statement from the trainer about compromise was disorienting for some of the participants who came into the course thinking mediators help parties reach compromise. The fact that two of them credited this specific content piece as influencing their change doesn't suggest that at the moment of that statement they changed, but that change happened for them as they reflected on what that meant, recognized how that statement created a disconnect with their assumptions, and they then moved on to see the truth in that statement from the process of role-play and debriefing discussions.

One significant aspect of the feedback from participants that specifically named role-play, feedback, and experiential aspects of the course is that they were not prompted or guided with a check list of items to choose from. The fact that these participants identified these specific items speaks to the impression these experiences made on them.

The theoretical framework of transformative learning as a means of promoting perspective change helped to interpret the results. Transformative learning instructional strategies focusing on self-reflection and active engagement with the principles of facilitative mediation were not only present in the training in the activities of role-play, debriefing, and case study work, but were identified by participants as having contributed to their change in perspective. Four out of nine participants independently identified role-play and debriefing exercises as the activities in training that most influenced their change in perspective. One participant identified his/her most significant change as gaining confidence in his/her ability to become a mediator. This change suggested a comfort level in understanding the training but did not indicate a specific perspective that changed.

The three core components of Mezirow's (1991, 1995) theory of transformative learning are the centrality of experience, critical reflection, and rational discourse. These core components were reflected in the learning strategies used in the training, and were supporting principles for the activities participants identified as having had the most significant impact on their change. Participants' emphasis on the importance of role-play connected to the significance of experience to a change in perspective. The nature of role-play as a venue for interacting with others who had different perspectives and experiencing the rules and information from class in action that appealed to participants, can be seen in the following comments from the final questionnaire: "the role-play was a very important tool in showing how one as a mediator can get at what each party feels; understanding how the rules should be used was very different than I would have thought until I had a chance to go through the process during class" and "role-playing was very helpful in seeing how both the mediator and the conflicting parties might be engaged by the process." A further connection to experience was provided by the participant

who had the opportunity to connect the learning from the class with mediation through that participant's work in the week between training sessions. This observation suggests that a benefit of scheduling training on consecutive weekends allows for participants to have that necessary time to implement learning in the action of their professional or everyday lives as part of the learning process.

The second component of transformative learning, critical reflection, was identified by participants as being central to helping them think about what they learned, what they experienced in role-plays, and how that might impact future action. One participant commented, "Beforehand I did not think about the several important professional guidelines that a mediator must observe." This participant further explained that the debriefing, as an exercise in critical reflection, helped him see "that the agreement is about the two parties and not about me as a mediator." The critical reflection allowed participants to consider how they applied their learning in the role-play activities, and acknowledge where their expectations were different from the actual experience. Experience provides the material for critical reflection, particularly when the experience causes the individual to question the assumptions previously held.

The third component of transformative learning, rational discourse, refers to the medium through which transformation is promoted and developed (Mezirow, 1991). It is the kind of discussion that is used to question assumptions and work toward mutual understanding, and is promoted in the training through debriefing and case study analysis. Participants did not specifically indicate that the discussions helped them to question their assumptions, but they did state that debriefing and the process they went through in the class, which included the use of rational discourse to engage in assumptions and articulate alternative perspectives, helped them change their perspective.

Perspective Change in Lawyers. The two practicing lawyers who constituted the evaluative pre-training perspective are an interesting group to probe further for a few reasons:

1. their pre-training evaluative perspective was furthest from the perspective promoted in training;

2.   their pre-training evaluative perspective fits the "lawyer's philosophical map" (Riskin,1982, 1996) that scholars like Alfini (2008), Kovack (2007), and McAdoo and Welsh (1996) claim prevents lawyers from becoming successful mediators;

3. a closer look at comparisons of their individual Q sorts reveal the strength of holistic interpretation in Q methodology.

First, the fact that their pre-training evaluative perspective was the furthest from the perspective promoted in training indicates that these individuals would be of particular interest for the trainer if the Q sort analysis were used as a learner analysis tool. These learners would be most in need of attention and interventions to change their perspective. They would have the furthest to go in changing to attain the facilitative broad perspective desired for a mediator.

Second, the fact that their pre-training evaluative perspective fits the "lawyer's philosophical map" (Riskin,1982, 1996) makes their changes interesting to observe in light of criticism from experts in the field like Alfini (2008) and Kovach (2007) who argue that this perspective of lawyers prevents them from becoming successful mediators. The current study did not involve predicting if any participants will become successful mediators, but it did illuminate the nature of changes that each of these lawyers experienced and exhibited. Both participants who were practicing lawyers had both a theoretical change and a statistical change; one moved from an evaluative to a facilitative broad perspective, and one moved from an evaluative to a facilitative narrow perspective. However, one of these lawyers reported having

no change despite measurements to the contrary. This practicing attorney reported having participated in over 100 mediations as lawyer, not as mediator or party. In these two instances, a closer look at the actual statements that changed and the participants' qualitative responses to the statements can help explain the significance of their results.

In the instance of the practicing attorney who self-reported no perspective change but was measured to have changed perspective (participant 10), it seems that he responded to the post-training Q sort with what he thought the training *taught* instead of what he felt he *learned*. In other words, the participant answered based on what the training was promoting rather than what the participant necessarily believed. This participant's post-training Q sort questionnaire revealed that rankings of a particularly evaluative statement like "It's important to tell parties the most likely outcome for their problem" (10) went from neutral (0) to most disagree (-5), not because the participant actually disagreed, but because, as the participant wrote, "this has been discouraged in class."

Further, participant 10's comments on the post-training Q sort questionnaire indicated continued concern with the emotional issues that might arise in facilitative mediation. This participant recognized that the training revealed more emotion, feelings, concerns, and other factors the participant called "soft" and did not realize were part of mediation. Consequently, the *most agree* +5 anchor statement in this participant's post-training sort was statement 8 regarding the importance of a written agreement. Participant 10 explains in the questionnaire ranking this process oriented statement as highest because "it seems to be the least in dispute." This indicated that the discomfort felt by this participant with emotional and "soft" factors of mediation were somewhat alleviated by focusing on the tangible and hard process of agreement writing. Therefore, a plausible explanation for this participant's lack of perceived change in

contrast to the theoretical and statistically measured change could be that this participant did not have an actual perspective change. Instead, this participant answered as the participant expected the trainer wanted. While this may not indicate a perspective change, it does indicate that the information in the training was conveyed in such a way that it was intellectually understood by the participant, if not embraced as new perspective.

In the instance of the other practicing attorney (participant 1), however, a different picture of perspective change emerges. This participant self-reported a perspective change and was measured moving from an evaluative to a facilitative broad perspective. A closer look at changes in ranking key evaluative and facilitative statements and the qualifying explanations of this participant's choices in the post-training Q sort questionnaire showed a different outcome than the lawyer (participant 10) who had a great deal of experience prior to training with mediation as counsel. In this lawyer's case (participant 1), the move to a facilitative broad perspective was indicated by statistically significant shifts in ranking evaluative statements like "A mediator should evaluate legal issues for parties if they need it" (statement 4) which moved from a pre-training ranking of +1 to a post-training ranking of -3; and "It's important to tell parties the strengths and weaknesses of their positions" (statement 15) which moved from a pre-training ranking of +2 to a post-training ranking of -4. Other shifts in statements that were not statistically significant offered insight as well. For example, the facilitative broad statement "It's important to have parties express their values behind their positions" (statement 18) moved from a pre-training ranking of 0, indicating a neutral assessment, to a post-training ranking of +2. Although this shift is not enough to rate as statistically significant, it is theoretically significant because it indicated this participant's recognition of the importance of a principle strongly aligned with the training perspective.

Another key indicator of the substantive nature of the change in participant 1 is the way ranking choices in the post-training Q sort questionnaire were explained. In participant 1's pre-training answer to the question "Describe any other thoughts or ideas about your approach to conflict resolution in a mediation setting that emerged for you while sorting these statements," the response was, "I prefer mediators who are more evaluative and help parties see their strengths and weaknesses." This participant's post-training Q sort questionnaire answer to the same question, however, revealed a significant shift: "While the mediator must have control over the process, I see his/her role as someone who should guide the parties and not direct them to a particular outcome that the mediator sees as the solution." Even when this participant's pre-training and post-training rankings were the same for certain statements, explanations indicated a change. One reason why this might have been the case is that this participant had the opportunity to experience a mediation at work in the week between training sessions.

Participant 1 stated in the post-training questionnaire: "I was involved in a mediation this past week where the mediator, in his opening remarks, likened the process to buying a car and haggling over the price. While the mediations I am involved in usually don't amount to much more than that, I learned from this class that mediation can be much more." This participant provided a key example of how putting the learning into action after reflection is critical to promoting perspective change (Mezirow, 1991, 1997).

The third aspect of why the individual results of these attorneys were so interesting to explore in more depth, concerns the way their results reveal the strength of holistic interpretation in Q methodology. Although exploring the strengths of holistic interpretation in Q methodology was not an overt goal of this research study, it is important to consider as an implication for finding adequate measurement tools for transformative learning. Particularly significant in the

use of Q methodology is the efficiency of time. Q sort activities and analysis takes substantially less time than in-depth interviews. Although interviews can increase the depth of information in a Q methodology study, even with only with the questionnaire, robust results emerged. Understanding that the perspective change Q methodology can reveal comes from careful consideration of the quantitative data and qualitative data, separately and in concert with one another, helps to see this type of analysis as a powerful tool to identify perspective change.

Looking at the quantitative data of participant 1's pre-training and post-training Q sorts, no differences were observed regarding what statement is in the +5 position. However, a look at the explanation of the same statement at the two different times showed a substantive theoretical change in his perspective. In both the pre-training and post-training Q sorts, participant 1 ranked statement 5 ("The ability to build trust and rapport is important to be an effective mediator") as the top *most agree* anchor statement. Participant 1 explains the choice for *most agree*: "The mediator is supposed to be neutral. He/she hears confidential information from each side. The parties already don't trust each other. The parties need to be able to trust the mediator." This explanation emphasized the adversarial nature of parties and the power of the mediator to work between them; it did not depict a facilitative perspective. However, participant 1's post-training explanation of the same ranking of the same statement was, "Parties will be sharing confidential information and exploring values, weaknesses, etc. Trust is critical." This explanation used language that connoted a much more facilitative perspective. The use of the phrase "each side" in the pre-training explanation suggested the adversarial nature of a win-lose dichotomy. The assertion that "parties already don't trust each other" as an assumption of the conflict was replaced with the assumption that parties would be "sharing" and "exploring" things beyond the hard "confidential information" and getting to the softer communication of "values, weaknesses,

etc." Therefore, even when the quantitative data does not support a change, the qualitative data could indicate change. Conversely, even when the quantitative data did support a change, the qualitative data could provide insight into why the self-report might be otherwise. This example revealed how the holistic combination of quantitative and qualitative analysis in Q methodology could make a study robust in its findings.

The results of the current study showed that training using best practices in the field of mediation that focus on transformative learning strategies of self-reflection like role-play and debriefing activities can help participants develop perspectives more in align with facilitative mediation. A facilitative perspective toward conflict resolution in mediation is advocated various governing bodies like the Georgia Office of Dispute Resolution and supported in the training literature (Raines, Hedeen, & Barton, 2010). Alfini (2008), McAdoo and Welsh (2004), and Kovach (2008) are a few of the scholars in the field who have expressed concern that lawyers come to mediation with conflicting perspectives on conflict resolution (evaluative or adversarial), and consequently have difficulty making the change to a facilitative perspective. Two of the participants in the current study were lawyers who did come into the training with perspectives furthest from the mediation perspective. Results suggested that one of those lawyers experienced a change in perspective whereas the other did not. However, because of the limited number of participants in this study and the nature of the method of analysis, no generalizations can be drawn from the results. Instead, the results provide insight into the experiences of the individuals taking part in the study and reveal possibilities of perspectives that others engaging in a similar study might exhibit. The results of this study showed that the practicing lawyers did enter into the training with the perspective expected from lawyers, namely an evaluative perspective that reflects the court system in which they operate. However, the

participant with a background in law who was not practicing but teaching law had more of a

facilitative perspective from the start of training. This result could suggest either that the

academic environment of this lawyer tempered the evaluative or adversarial perspective expected

of a lawyer, or that some other factor contributed to that participant having a more facilitative

initial perspective toward conflict resolution. In terms of the connection that previous experience

had on the ability of participants to adopt the perspective promoted in training, the lawyer

without any experience with mediation was more able to take on the facilitative perspective from

the training. In contrast, the lawyer who reported having had extensive experience with

mediation in his role as a lawyer (not a mediator or a party in mediation) was unable to change

his perspective to the facilitative perspective promoted in training.

Implications

One of the challenges in mediation training is a lack of empirical evidence for what

changes learners actually experience in training. There are plentiful accounts from scholars

expressing concern about mediators practicing from a non-facilitative perspective including Love

(1997) and Kovach (2007); studies about how mediators are acting in the field such as Goldberg,

Shaw, and Brett (2009); and studies documenting problems that arise from ethics violations

(Young, 2006). However, there is a dearth of research on what is happening empirically in

mediation training itself, as articulated by Hinshaw and Wissler (2005): "the mediation field as a

whole lacks systematic empirical research evaluating the effectiveness of mediation training" (p.

22). Raines, Hedeen, and Barton (2010) pointed out that although there are best practices of

what should happen in mediation training, the fact that there are no assessments required of

training to document participants' skill levels leaves a gap in data about what trainees are

actually learning. The current study began to address that issue by providing empirical evidence for one aspect of what happens in mediation training, namely perspective changes.

Having a tool and a method to measure the perspectives of training participants as they enter into a course and as they complete the course can provide trainers and the field with more tangible data to determine the success of courses and the preparedness of trainees. In terms of instructional design, this study can provide insight into how training with affective learning goals might be designed to promote transformative learning. From the perspective of transformative learning theory, this study can be used as a starting point for developing empirical measures to identify perspective change, not as a final goal, but as a process to be continued through sustained application.

Limitations of the Study

Limitations in this study included the number of participants, aspects of the instruments, and the ability of the methodology to reach generalizable conclusions. One key limitation in the study was the number of participants. Participants were purposefully delimited to include only those individuals who signed up to take the mediation training serving as the context of the study. Registration for this particular training was lower than expected. This might have been due to the timing of early January when people could be cutting costs associated with training because of holiday expenses. In addition, two participants who registered had to withdraw before the training began due to health reasons. However, because Q methodology does not require a large number of participants to obtain significant data for the purpose of identifying and interpreting perspectives, the goals of the study were achieved.

In terms of the *instruments*, the post-training questionnaire could be improved, specifically to separate the two substantive pieces of information being solicited in question 2:

"Describe in detail the change(s) and indicate the most significant change." Instead, the first question should ask participants to "describe in detail the change(s)" and the second should ask participants to "indicate the most significant change." In addition, question 4 of this same instrument did not yield results as rich as might be expected, so follow-up conversations to review these responses with participants would be helpful. In this study, post Q sort interviews were not conducted. Instead, questionnaires solicited feedback on the Q sort statements and specifically asked participants to explain their choices in anchor statements. This provided useful information, but interviews that followed-up with participants to clarify the meaning of some of their explanations, to obtain elaborations, and to clarify the way they understood the training to have contributed to their change might have been more helpful.

In terms of limitations with the *methodology*, there were potential conflicts with expectations from what could be achieved with the data obtained and analysis procedures. Q methodology employs both statistical and theoretical methods of generating and analyzing data, reflecting both quantitative and qualitative principles. Whereas in quantitative studies, generalizations are a primary goal, with Q methodology, generalizations are not possible. Q methodology is not designed to elicit generalizations from the results. Therefore, all that can be said from this study is related to the participants in this particular training. However, the combined quantitative and qualitative data and analysis for the participants in training is informative to the fields of mediation training, instructional design, and transformative learning.

Recommendations for Further Study

More studies on how participants move from training into the application of the perspective promoted in training are needed to determine if sustained perspective changes are occurring. Such studies could help develop empirical supports for transformative learning theory, and

continue to inform the design of training to promote such changes. Because the Q methodology used in this study does not allow for generalizations to be drawn from participant results, more empirical studies on the actual perspectives that participants come to training with, particularly participants with legal experience, should be conducted. Such studies could help determine the veracity of concerns that lawyers struggle to adopt a mediation perspective. Based on the results of this study, the following new research questions are recommended for consideration for future studies in this area:

1. How can the Q sort instrument and data analysis protocol be used to develop learner profiles that help trainers make decisions in instructional strategies?

2. How can transformative learning inform instructional design for affective learning goals?

3. Do changes in participants' perspectives as indicated in mediation training transfer into their practice of mediation?

The current study showed that nine out of ten participants had a perspective change as indicated by the measurement of operant subjectivity using Q methodology. These changes occurred after a 40-hour training program that had as a transformative learning goal the adoption of a facilitative perspective toward conflict resolution. This study does not prove that anyone in the training fully experienced transformative learning. To prove that transformative learning occurred is not within the scope of this study, because the nature of what transformative learning *is* has to do with sustained adoption of a new perspective and the enactment of that perspective. Some participants identified a disorienting dilemma that began their questioning of assumptions about conflict resolution and mediation. According to Mezirow (1997), if the disorientation is assimilated into the existing frame of reference of an individual, there is no transformative learning, but if the disorienting experience pushes the individual to question assumptions, try on

new roles, and incorporate them into practice, then transformative learning can be said to have occurred. Although participants in the training *enacted* their perspectives through their Q sort activity, they did not show sustained change in their performance as mediators outside of the training environment, because that was beyond the scope of the study. This study provided a much needed way of measuring perspective through an empirical, statistical, and theoretical approach as a first step toward identifying transformative learning in the making. A longitudinal study that followed the experiences of trainees who indicated changes in perspective from training into their practice of mediation would be a step in the direction of identifying the sustained change in perspective that defines transformative learning.

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APPENDICIES

Appendix A: IRB Approval

Kate Pavich
Monday, May 21, 2012 10:47 AM

To: ☐ ROBERT C M Branch; ☐ Brandy Brown Walker

PROJECT NUMBER: 2012-10852-0
TITLE OF STUDY: Mediating change: An investigation into participant perspective changes in mediation training
PRINCIPAL INVESTIGATOR: Dr. Robert Maribe Branch

Dear Dr. Branch and Ms. Walker,

The University of Georgia Institutional Review Board (IRB) has reviewed and approved your above-titled proposal through the exempt (administrative) review procedure authorized by 45 CFR 46.101(b)(2) - Research involving the use of educational tests (cognitive, diagnostic, aptitude, achievement), survey procedures, interview procedures or observation of public behavior, unless (i) the information obtained is recorded in such a manner that human participants can be identified, directly or through identifiers linked to the participants; and (ii) any disclosure of the human participants' responses outside the research could reasonably place the participants at risk of criminal or civil liability or be damaging to the participants' financial standing, employability, or reputation.

Please remember that any changes to this research proposal can only be initiated after review and approval by the IRB (except when necessary to eliminate apparent immediate hazards to the research participant). Any adverse events or unanticipated problems must be reported to the IRB immediately. The principal investigator is also responsible for maintaining all applicable protocol records (regardless of media type) for at least three (3) years after completion of the study (i.e., copy of approved protocol, raw data, amendments, correspondence, and other pertinent documents). You are requested to notify the Human Subjects Office if your study is completed or terminated.

Good luck with your study, and please feel free to contact us if you have any questions. Please use the IRB number and title in all communications regarding this study.

Regards,
Kate

--
Kate Pavich
Human Subjects Office
627A Boyd Graduate Studies Research Center
University of Georgia
Athens, GA 30602-7411
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Phone: 706-542-5972
Fax: 706-542-3360

Appendix B: Student Consent Form

STUDENT CONSENT FORM

I, _____, agree to participate in a research study titled "Mediating change: An investigation into participant perspective changes in mediation training," which is being conducted by Brandy B. Walker from the Educational Psychology and Instructional Technology Department at the University of Georgia (770-789-6700) under the direction of Dr. Robert M. Branch, Educational Psychology and Instructional Technology Department at the University of Georgia (706-542-4110). I understand that my participation is voluntary. I can refuse to participate or stop taking part at anytime without giving any reason, and without penalty or loss of benefits to which I am otherwise entitled. I can ask to have all of the information about me returned to me, removed from the research records, or destroyed.

The purpose of this study is to better understand how perceptions of mediation change as a result of mediation training. The findings from this project may provide information on how to better understand mediation training and improve on the training for the benefit of the field.

I will not benefit directly from this research, but the profession may benefit in the long run.

If I volunteer to take part in this study, I will be asked to allow the researchers to have access to my written course materials, which includes anything that is handed into the instructor, including pre and post surveys and q sort activities. I will not be asked to do anything in addition to what is already expected of me in the training. Rather, I am giving consent for my written course materials from the training to be used in an effort to improve future mediation trainings. I understand that participation in this study is voluntary and in no way affects my ability to participate in the course, and in no way affects any assessments related to the course.

I understand that my written course materials will be kept confidential; once my course materials are submitted to the researchers, my name will be replaced with a code that is only identifiable to the researchers. No one other than the research team will have access to my course materials. Data will be analyzed within 12 months after collection and then original copies of materials will be destroyed along with the codes. No grades will be affected.

My part in this study will last for the duration of the mediation training, 5 days, and will take place at the Fanning Institute. No discomforts or stresses are expected. No risks are expected.

The only people who will know that I am a research subject are members of the research team. My name on course documents will be replaced by codes that are only identifiable to the researchers. No individually identifiable information about me, or provided by me during the research, will be shared with others without my written permission.

The researcher will answer any questions about the research, now or during the course of the project, and can be reached by telephone at: 770-789-6700. I may also contact the professor supervising the research, Dr. Robert M. Branch, Educational Psychology and Instructional Technology Department, at 706-542-4110.

My signature below indicates that the researchers have answered all of my questions to my satisfaction and that I consent to volunteer for this study. I have been given a copy of this form.

_____   _____   _____
Name of Researcher   Signature   Date

Telephone: _____   Email: _____

_____   _____   _____
Name of Participant   Signature   Date

Please sign both copies, keep one and return one to the researcher.
Additional questions or problems regarding your rights as a research participant should be addressed to The Chairperson, Institutional Review Board, University of Georgia, 629 Boyd Graduate Studies Research Center, Athens, Georgia 30602-0001; Telephone (706) 542-3199; E-Mail Address IRB@uga.edu

Appendix C: Pre-Training Questionnaire

Mediation Training:
Participant Pre-Training Survey

Please provide your name. _____

Check as many of the following that describe you.
        ____   I have served as a mediator in the court system before.
        ____   I have served as a mediator outside of the court system before.
        ____   I have participated in mediation training before.
        ____   I have never formally practiced mediation before.

Briefly explain why you are taking mediation training.

Describe any LIFE or PROFESSIONAL experience you've had that would make you a good mediator.

Describe any QUALITIES you have that would make you a good mediator.

Appendix D: Q Sort Tools (Mat and Post-Q Sort Reflection)

Post-Q Sort Reflection: Your perspective on
how you approach conflict resolution in a mediation setting

1) <u>Describe</u> why you most AGREE with the items you placed at the (+5 and +4) end of the continuum in your approach to conflict resolution in a mediation setting.
Item #

#_____ Most agree (+5) because:

#_____ Agree (+4) because:

#_____ Agree (+4) because:

2) <u>Describe</u> why you most DISAGREE with the items you placed at the (-5 and -4) end of the continuum in your approach to conflict resolution in a mediation setting.
Item #

#_____ Most disagree (-5) because:

#_____ Disagree (-4) because:

#_____ Disagree (-4) because:

3) What were specific statements that you had difficulty placing and describe your dilemma?

4) Describe any other thoughts or ideas about your approach to conflict resolution in a mediation setting that emerged for you while sorting these statements.

5) What attitudes or values inform how you approach conflict resolution in a mediation setting?

Appendix E: Post-Training Questionnaire

Mediation Training:
Participant Post-Training Survey

Please provide your name, first and last. _____

1. Have you experienced any change(s) in your perspective of or attitude toward any aspects of mediation during the training? _____ yes _____no

   If yes, please answer numbers 2 and 3 only.
   If no, please skip to number 4.

2. Describe in detail the change(s) and indicate the most significant change.

3. What activity or aspect of the training had the greatest impact on your change in perspective or attitude?

4. Do you feel that your perspective or attitude maintains alignment with the mediation training? Explain.

Appendix F: Transcript for Pre-Training Q Sort Video

A: Hello. And what are you doing this morning?

B: I'm going to a wonderful place called the Fanning Institute. They have a phenomenal training course for me to become a mediator.

A: What's that?

B: A mediator helps others resolve conflict. And I'm great at resolving conflict!

A: Oh really? What is your perspective on conflict?

B: My perspective. Well…well … I need to think about that.

A: I know a fun activity to help you clarify your perspective on conflict.

B: Why would I want to do that?

A: Well, it might be very useful for you to know your own perspective on conflict as you enter into the training.

B: What a lovely idea! Please tell me more about this fun activity.

A: Well, it is called a q sort. It is super fun, and will help you get started in your training class.

B: Oh goody. I can't wait! But how do I do this fun and informative q sort activity?

A: My friend, watch and see. Oh, and one more thing. This is not a test. There are no right or wrong answers.

B: Shew! That is a relief.

Narrator

Before we begin, make sure you have a set of 36 cards, a Q-sort mat and pen, and a worksheet.

Write your name in the space provided on the lower left corner of the Q-sort mat.

Imagine you are a mediator in a mediation session. How would you act to help others resolve their conflict? Read the statements on each card with this in mind. Based on your initial reaction to each statement, sort the cards into one of the three piles at the top of the mat. Statements that you do not agree or disagree with, or that you are not sure of, should go in the neutral pile. Don't spend more than a couple of minutes on this part. Count the number of cards you have in each pile and write that number in the space provided. Choose either the agree or disagree pile, and take a little more time to sort the statement cards on your grid according to the strength of your feelings about each statement. For example, put the statement that you most agree with in the spot marked "5 most agree." Sort through the remaining statements from this pile and place them in the remaining columns. Take note of the number of cards that go in each column. You shouldn't have any more or any less than the spaces provided. Once you are finished with the agree pile, move on to the disagree pile, and repeat the process, starting by putting the statement you most disagree with in the spot marked "-5 most disagree." Save the neutral pile for last. Think of these middle columns as a continuum, not as a strict agree or disagree. It's ok to have some overlap from your initial sort piles, and where they finally end up on your grid. Feel free to move the cards around and adjust them until you get your grid just like you want it. When you are satisfied with the order of your cards on the grid, peel the backing from the adhesive on the back of each card, and stick them in place. You may struggle with ranking some statements and think, "Well, what do they mean by that?" Here's your chance to say what you mean by the

statement and not worry about what we mean. The worksheet is where you explain why you made your choices, and where you make your own personal sort more meaningful. You will have up to 40 minutes to complete the sort. Then you should move to the worksheet to explain your selections.

B: Alrighty then! Let's get started!

A: And remember, it will be super fun!

Appendix G: Transcript for Post-Training Q Sort Video

A: Hello. And how did you find your mediation training?

B: Oh, it was wonderful.

A: I am so pleased to hear it.

B: My trainers were fabulous. Especially Raye. She is a superstar!

A: Excellent! So, now do you have a new perspective on conflict?

B: A new perspective?

A: Yes, is your perspective on conflict resolution any different from when you started the training?

B: Well that is a good question.

A: Perhaps you should do the q sort activity again to see. It would be interesting to return to those statements on conflict resolution to see what your perspective is not.

B: What a grand idea.

A: But of course there are no right or wrong answers.

B: Naturally, but I might think differently about these statements after my exciting training experience.

A: It is possible. And remember, it will be super fun.

Narrator: Before we begin, make sure you have a set of 36 cards, a Q-sort mat and pen, and a worksheet. Write your name in the space provided on the lower left corner of the Q-sort mat.

Imagine you are a mediator in a mediation session. How would you act to help others resolve their conflict? Read the statements on each card with this in mind. Based on your initial reaction to each statement, sort the cards into one of the three piles at the top of the mat. Statements that you do not agree or disagree with, or that you are not sure of, should go in the neutral pile. Don't spend more than a couple of minutes on this part. Count the number of cards you have in each pile and write that number in the space provided. Choose either the agree or disagree pile, and take a little more time to sort the statement cards on your grid according to the strength of your feelings about each statement. For example, put the statement that you most agree with in the spot marked "5 most agree." Sort through the remaining statements from this pile and place them in the remaining columns. Take note of the number of cards that go in each column. You shouldn't have any more or any less than the spaces provided. Once you are finished with the agree pile, move on to the disagree pile, and repeat the process, starting by putting the statement you most disagree with in the spot marked "-5 most disagree." Save the neutral pile for last. Think of these middle columns as a continuum, not as a strict agree or disagree. It's ok to have some overlap from your initial sort piles, and where they finally end up on your grid. Feel free to move the cards around and adjust them until you get your grid just like you want it. When you are satisfied with the order of your cards on the grid, peel the backing from the adhesive on the back of each card, and stick them in place. You may struggle with ranking some statements and think, "Well, what do they mean by that?" Here's your chance to say what you mean by the statement and not worry about what we mean. The worksheet is where you explain why you made your choices, and where you make your own personal sort more meaningful. You will have up to 40 minutes to complete the sort. Then you should move to the worksheet to explain your selections.

B: Alrighty then! Let's get started!

A: And remember, it will be super fun!