Communities of Practice in Autism

Evaluation Report

September 2008

Partnership for People
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Executive Summary

Ten leaders were recruited, trained, and supported for the Communities of Practice in Autism initiative in six areas—Abingdon, Northern Virginia, Richmond, Roanoke, Tidewater and Valley regions. The Virginia CoPA engaged in a variety of activities and discussions through a total of 58 meetings throughout the state. The meetings were well-attended, with a core group of parents and professionals present at each meeting. Based on meeting evaluations and interviews with each of the ten leaders, findings of the CoPA evaluation include the following.

- Nearly all CoPA leaders indicated that their region was interested in autism spectrum disorder, particularly the lack of services, knowledge, and access.
- The purposes of the CoPAs were to: share information and issues, educate and train professionals and family members, raise awareness, increase skills, and maintain consistency.
- Three leaders covered all the topics provided in the leaders' manual and the other leaders covered most of the topics.
- About half of the leaders indicated that they felt their CoPA was successful and the other half felt it succeeded partially.
- Overall, about two-thirds of the participants rated helpfulness of the presenter and usefulness of the materials in the meetings as "Excellent."
- On a scale from 1 "Poor" to 5 "Excellent," the average rating for all meetings was high, with a mean of 4.32 for effectiveness of training; 4.57 for helpfulness of presenter, and 4.55 for usefulness of materials. Family members and administrators rated the meetings the most highly.
- Every region held at least one meeting in which the effectiveness of training, helpfulness of presenter, and usefulness of materials exceeded a mean of 4.50.
- The communities of practice model took hold in every region, with good leadership and a core group of practitioners actively engaged, participatory, and committed.
- On a scale from 1 "Poor" to 5 "Excellent," the average rating was 4.00 for problem solving and action planning; 3.98 for improving knowledge/skill through case studies and activities; 4.24 for increasing knowledge through lectures and guest speakers; and 4.21 for increasing knowledge/skills of providers, parents, and other community members.
- A pre-test instrument found that participants averaged about 2 ("I know a little") for each of the 15 topic areas about autism, which increased to an average of about 3 ("I know a fair amount about this topic.")
- Knowledge, skills, and abilities increased in 13 of the 15 topic areas, particularly in "Evidence-based intervention for young children diagnosed with ASD," with a 31 percent knowledge gain. The major problems observed in the Virginia Communities of Practice in Autism pilot had to do with limited prior experience with communities of practice, leaders working in isolation, conflicting work priorities, and distance to meetings.

Communities of Practice in Autism
Evaluation Report

Introduction

The Communities of Practice in Autism initiative in Virginia involved training and supporting leaders in six areas—Abingdon (Southwest Virginia), Northern Virginia, Richmond/Central, Roanoke, Tidewater and Valley regions. With the exception of the Valley and Richmond/Central regions, each region had two leaders. A total of ten leaders were trained and supported in the communities of practice model.

The communities of practice model has several key features. Etienne Wegner (2008)[1] identifies the following crucial characteristics:

- A shared "domain of interest," a commitment to the domain, and shared competence.
- Members engage in joint activities and discussions and share information.
- Members are practitioners with shared resources, experiences, and ways of addressing problems.

In the Virginia Communities of Practice in Autism ("CoPA"), the leaders and members have a shared interest in autism and a commitment to serving children with Autism Spectrum Disorder and their families. Leaders clearly have a shared competence; they have an average of 14 years of experience in early intervention and have worked with children with Autism Spectrum Disorder. Leaders include systems managers, speech language pathologists, case managers, and administrators.

The Virginia CoPA engaged in a variety of joint activities and discussions through a total of 58 meetings throughout the state. The meetings were well-attended, with a core group of parents and professionals present at each meeting. In addition to presentations and discussions, each CoPA engaged in joint activities, such as developing resource materials, guest speakers, role playing, small group discussions, and case studies. All of the meetings involved discussions and sharing of information through CoPA members and guest speakers.

Members and leaders of the CoPA are practitioners who are interested in learning about evidence-based practices, programs, and other issues related to autism, particularly as it applies to their own region. The leaders and members met regularly, shared information, developed resource materials, problem-solved strategies, and discussed experiences.

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[1] Etienne Wegner. (2008) *Communities of Practice: A Brief Introduction.* Retrieved August 12, 2008 at www.ewenger.com/theory/communities_of_practice.htm

This report is based on meeting evaluations and interviewing the CoPA leaders at the end of their pilot year. The interview questions (included in Appendix A) address the purpose of the communities of practice, participation, commitment, support and resources, barriers and successes, and activities. All ten of the CoPA leaders readily agreed to be interviewed.

Leaders of the Communities of Practice in Autism

Ten leaders in Virginia were selected through an application process. Of the ten leaders, there are nine women and one man. Their job positions include:

- Two speech language pathologists
- Coordinator of early childhood services
- Early intervention coordinator
- Director of a pediatric therapy company that provides occupational, physical, and speech therapy
- Part C system manager
- Child development specialist
- Director of CHIP (Comprehensive Health Investment Project)
- System manager for early intervention and community services program manager

They have worked in early intervention a range of one year to thirty years, with an average of 13.8 years. Three leaders have at least 20 years of early intervention experience.

Because only two leaders were involved in the development of the Communities of Practice Proposal, some leaders were initially confused about the purpose of the overall CoPA and about half initially misunderstood their responsibilities, particularly whether topic areas were mandatory or optional. One leader misunderstood that she was to conduct a preliminary needs assessment. The confusion ended early on, after discussions, assistance, and reading the materials. Despite some initial confusion, all of the leaders were able to develop a viable community of practice in their area, where there was a core group of committed members and meetings provided a rich exchange of information and strategies.

When asked why they applied to be CoPA leaders for their region, three of the leaders said they were asked by their supervisors to participate; the others volunteered. Those who volunteered wanted to learn more about autism or thought that the experience would benefit families in their region. One person volunteered because she was interested in the communities of practice concept. A few indicated that they enjoyed facilitating or training. All of the leaders were excited or intrigued by the opportunity from the beginning. Some of the leaders' comments about why they applied to be a CoPA include:

- "I have a personal interest."

- "I enjoy working with kids with autism and this would be an opportunity to help other families and be more knowledgeable."
- "I always had an interest in autism. "
- "I thought that communities of practice for autism was a good idea. It's something I've been interested in for a long time. It's an unmet need in service delivery."

Autism in the Virginia Regions

All except one CoPA leader indicated that providers, families, and others in their region are interested in improving supports and services for young children with Autism Spectrum Disorder and their families. They know their region is interested based on comments by parents and providers, who are particularly interested in services and resources. Some leaders noted that the level of enthusiasm and interest in the CoPA meetings demonstrated a strong interest in their region. The one leader who did not agree that the region is interested in improving supports and services said that families sometimes don't understand autism, so when the issue is broached, the families go into denial and will sometimes terminate services. "Sometimes the families are not happy with you saying they need different assessments. Families don't fully understand what autism is. They think their child will grow out of it. They hear the word autism and they react."

Leaders noted a number of autism spectrum disorder issues and needs in their region, particularly a lack of services, knowledge, and access. Some leaders pointed out issues with medical practitioners, early intervention staff, related service providers, and school personnel working together. Other problems identified include the following:

- Non-qualified personnel giving ASD diagnoses
- Lack of in-home services or medical treatment
- Lack of training and information
- Issues of cross-disciplinary communication and collaboration
- Lack of availability of up-to-date information
- Lack of guidance for families newly diagnosed with ASD
- Referrals to medical staff that are hours away
- Long waiting lists for services
- Lack of support by schools for ABA
- Schools' and providers' inability to meet the medical community's recommendations
- Lack of continuity in services by families moving in and out of the area
- Providers' lack of skills/knowledge
- Families not accessing services they are qualified for
- Transition to preschool
- Lack of health insurance coverage for occupational and speech therapy
- Lack of services in rural areas
- Lack of variety of programs and options
- Lack of certainty about how to deal with autism behaviors and issues

- Few best practices and few options
- Not many programs for birth to four

The Communities of Practice in Autism

The goal for the communities of practice was to have nine meetings. Two CoPAs met that goal and four CoPAs held seven or eight meetings. The other four CoPAs each held four meetings. Two of the leaders had joined together to co-lead their region so there were eight meetings in their region, though only four meetings in each CoPA. One leader who held only four meetings indicated that they had to cancel meetings due to staff shortages and work priorities.

For the most part, meetings included presentations on autism issues, programs, and strategies. Members of the CoPA were often recruited to give presentations on their field of expertise, such as one member of the school system who presented on assessment tools. Guest speakers were also recruited, though some leaders found that CoPA members made better speakers. Speakers discussed a variety of autism topics, such as sensory issues, behavioral issues, ABA, Greenspan floor method, and families' perspectives. Presentations were typically followed by discussion.

In addition to presentations, CoPA meetings involved a number of interesting activities. Some of the activities include:

- Development of a resource directory of practitioners in the area
- Viewing of video documentaries
- Compilation of information and resources to be provided to parents and providers
- Sharing of information derived from other trainings and conferences
- Drafting a letter to medical practitioners about early intervention philosophy and available services
- Review of journal articles and other materials
- Role play strategies
- Presentation of information from books, journals, and other resources
- Breakouts into small group discussions
- Case studies
- Small group brainstorming exercise

Seven leaders covered most of the topics provided in the CoPA leaders' manual and three leaders covered all the topics. The reasons varied why CoPAs did not complete the topic areas, including: "we thought it was optional, so we didn't cover them all;" "the other person sharing my region covers the ones I don't;" and "we had to cancel two meetings, so we haven't done all the topics." One leader said, "We spent last meeting talking about sustainability so we didn't cover the topic, but we gave out handouts about the topic area." Another person noted that her group included several people with strong personalities and personal agendas. "The group wasn't receptive to all the topics; they said they had already had training on it or heard it a million times,"

the leader said. This group brainstormed ideas for topics to be covered, which she said fit the needs of the localities better than completing the topics in the manual.

Meetings were held at centrally-located facilities. Although one CoPA met in an early intervention office and two met at the local Community Services Board, many communities of practice meet in "neutral" facilities, which helped participants to not associate the community of practice with specific affiliations. Places they met include a center for higher education, Children's Hospital, a library, and the "Small Business Incubator," a state-funded program for startup small businesses.

Interest in ASD Topics

At one of the first meetings, participants were asked whether or not they would like to attend meetings or activities that addressed four different topic areas. As shown in the following table, there was a strong interest in each topic.

Table 1. Interest in Topics about Autism Spectrum Disorder

	n	**Yes**	**No**
Problem solving and action planning (ie making recommendations for practice for providers or systems)	50	96%	4%
Improving knowledge and skill of early intervention and preschool providers through the review of case studies, practice, hands-on activities and demonstration.	49	96%	4%
Increasing awareness and knowledge of early intervention and preschool providers through lecture, guest speakers, review of resources.	50	94%	6%
Increasing awareness, knowledge and skills of providers, parents, and other community members, including parent organizations and others.	53	100%	0%

The Purpose of Communities of Practice

Although the purposes varied, all of the CoPA leaders were clear about the purpose of their own community of practice. Purposes cited include: 1) to provide a mechanism for professionals and parents to share information and issues; 2) to educate and train professionals and family members; 3) to raise awareness; and 4) to increase skills and maintain consistency.

About half of the leaders indicated that they felt their CoPA was successful and the other half felt it succeeded partially. CoPA leaders were encouraged by the level of attendance, enthusiasm and commitment by core members, sustainability, and the amount of information and support shared. Those who felt the community of practice succeeded only partially had wanted others to assume leadership roles or they wanted a greater diversity of participants or more meetings.

Despite the feeling some leaders that their community of practice did not achieve the goals they wanted, the CoPAs did an excellent job of fulfilling their purposes. The communities of practice provided an effective mechanism to share information, educate, train, raise awareness, and increase skills. The CoPAs not only provided information; they knew what was needed in their region. They engaged the most appropriate members in their community--parents and professionals—and provided the information that was most needed. As one leader noted, "We focused on concrete information—this has worked well for us. Just knowing about resources doesn't help…We offered what people needed; that helped it work."

Communities of Practice in Autism Meetings

The Communities of Practice in Autism held a total of 58 meetings throughout Virginia, with the most meetings in the Northern Virginia area. As shown in Table 2, about one-third of the total number of meetings were evaluated. The evaluation

Table 2. CoPA Meetings in Each Region

Region	Meetings Held	Meetings Evaluated	Participants Completing Evaluations
Abingdon	8	0	0
Northern Va.	18	0	0
Central	4	3	16
Roanoke	4	4	72
Tidewater	15	6	60
Valley	9	9	164
TOTAL	**58**	**22**	**312**

form is a one-page assessment with the following questions, in addition to a question about the participant's affiliation:

- How effective was this training in providing you with new information or skills (5-point scale, from Poor to Excellent)
- How helpful were the facilitator(s)/presenters? (5-point scale, from Poor to Excellent)
- How useful were the materials? (5-point scale, from Poor to Excellent)
- I learned…
- I plan to change or do the following differently…
- This session would have been better if…
- What other comments do you have to share…

Ratings of Meetings

The effectiveness of the training, helpfulness of the presenter, and usefulness of the materials were evaluated on a five point scale, from 1-"Poor" to 5-"Excellent." As

shown in the following chart, the meetings were rated highly. About two-thirds of the participants rated helpfulness of the presenter and usefulness of the materials "Excellent." Few participants rated the effectiveness, helpfulness, or usefulness less than "satisfactory" and there were no "Poor" ratings.

Chart 1. Overall Ratings of Meetings

Overall Ratings of Meetings

	Usefulness of Materials	Helpfulness of Presenter	Effectiveness of Training
☐ Excellent	63%	65%	49%
☐ Good	29%	28%	35%
☐ Satisfactory	9%	7%	14%
☐ Fair	0%	0%	2%
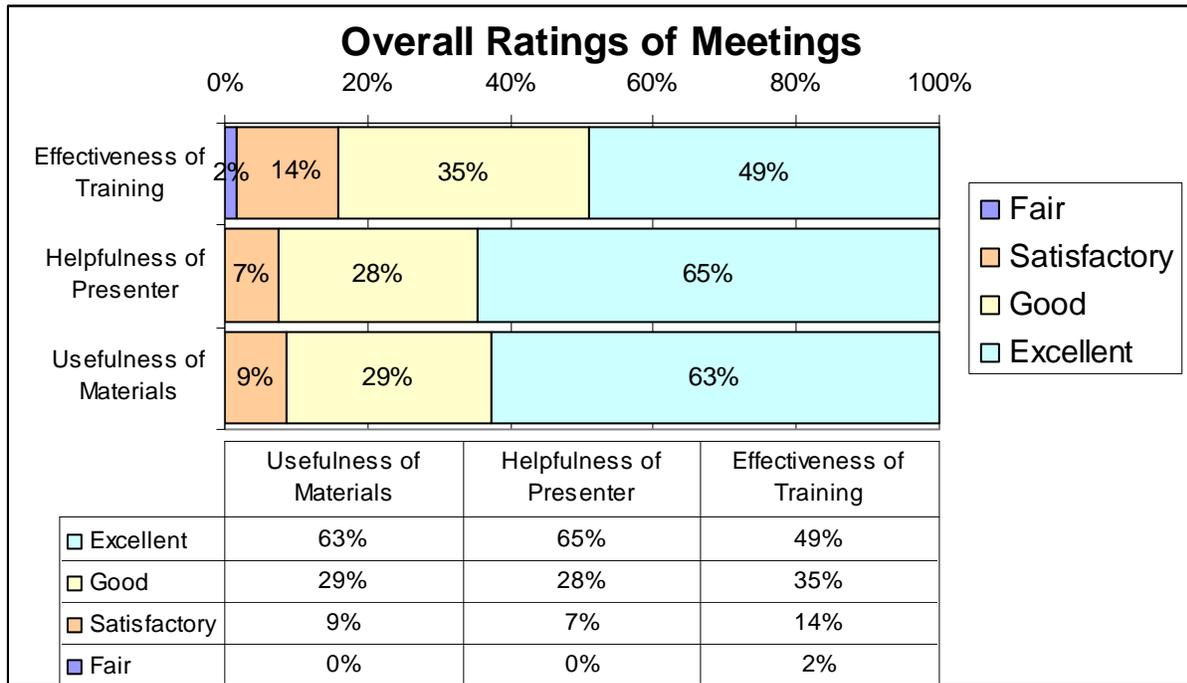
Average Ratings of Meetings by Region

Means were calculated for each evaluation item and compared between regions. The highest possible mean is 5.00, meaning each participant rated that evaluation item "Excellent." In total, the average rating for all meetings was high, with a mean of 4.32 for effectiveness of training; 4.57 for helpfulness of presenter, and 4.55 for usefulness of materials. Ratings were slightly higher for meetings in the Valley and Tidewater regions.

Chart 2 demonstrates how well each region did in terms of effectiveness of training, helpfulness of presenter, and usefulness of materials. Note that the mean scores for the helpfulness of the presenter varied very little between the regions, but there is more variability between regions in terms of the usefulness of materials.

Chart 2. Average Ratings of Meetings by Region

Meeting Evaluations

Region	Effectiveness of Training	Helpfulness of Presenter	Usefulness of Materials
Valley	4.41	4.41	4.65
Tidewater	4.31	4.50	4.56
Central	4.13	4.50	4.31
Roanoke	4.19	4.49	4.36
TOTAL	4.32	4.57	4.55

□ Effectiveness of Training ■ Helpfulness of Presenter □ Usefulness of Materials
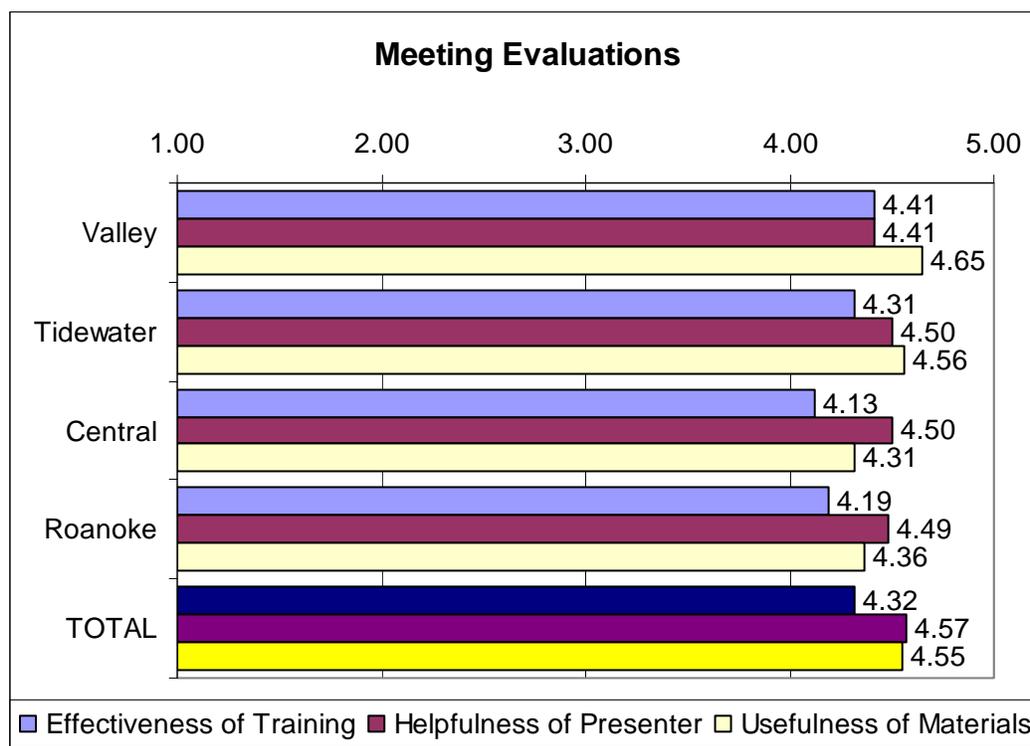
Average Ratings of Meetings by Affiliation

Table 3 presents the average ratings of meetings, by affiliation. The affiliations are not mutually exclusive, so some participants may be administrators or family members as well as work in a Part B or Part C organization. There were a total of 201[*] Part C participants, the group most highly represented, including early intervention

Table 3. Mean Ratings of Meetings by Affiliation

Affiliation	n[*]	%	Effectiveness of Training Mean	Helpfulness of Presenter Mean	Usefulness of Materials Mean
Part C	201	65%	4.30	4.56	4.55
Part B	30	10%	4.43	4.50	4.57
Family	23	7%	4.52	4.83	4.68
Administrators	22	7%	4.59	4.77	4.73
School system	10	3%	3.90	4.20	4.00
Other	21	7%	3.90	4.38	4.29
Total	**307**	100%	**4.31**	**4.57**	**4.54**

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[*] Duplicate count. The affiliation is counted for each meeting the participant attended, so a family member who attended four meetings is counted four times.

providers, service coordinators, and system managers. Part B participants include special education personnel and case managers, and school system participants are those affiliated with schools, such as teachers, college student interns, and school psychologists. Other affiliations include related service providers (speech, OT, and PT therapists) and staff from Headstart, Community Services Boards, Department of Social Services, Social Security, Training And Technical Assistance Centers, and other organizations.

Family members and administrators rated the meetings the most highly. The mean score for effectiveness of the training, helpfulness of the facilitator, and usefulness of the materials exceeded 4.50 on a 5.00 scale for both family members and administrators. As shown on Table 4, the vast majority of family members and administrators rated the evaluation items "Excellent."

Table 4. Percentage of Each Affiliation Rating the Evaluation Item "Excellent"

Affiliation	n*	Effectiveness of Training	Helpfulness of Presenter	Usefulness of Materials
Part C	201	47%	64%	62%
Part B	30	60%	60%	67%
Family	23	65%	83%	77%
Administrators	22	64%	77%	77%
School system	10	30%	50%	40%
Other	21	29%	48%	43%
Total	**307**	49%	64%	63%

Most Highly Rated Meetings

Every region held at least one meeting in which the effectiveness of training, helpfulness of presenter, and usefulness of materials exceeded a mean of 4.50. The following table highlights the nine most highly rated meetings, with each evaluation item receiving a mean of at least 4.50. Two meetings in Roanoke received scores of "Excellent" for each evaluation item by every participant.

Comments from participants about these meetings showed that they learned a great deal, enjoyed the presentations, and appreciated the materials. Several indicated that they benefited from hearing from parents and others complimented the presenters for being very knowledgeable about the topic. Some of the comments are listed below.

- "Great hearing as much as possible from parents."
- "I really liked having the resource lists and also the handouts."
- "Glad to have handout materials that I can look back at and share with families."
- "It was great to have a parent tell her story and be so open. Helpful!"
- "Liked the small groups."
- "Like the examples and dialogue."

- "As a Grandmother of a fantastic Grandson with autism, your care is so appreciated."

Table 5. Nine Highest-Rated Meetings

Region	Meeting Date	n	Effectiveness of Training	Helpfulness of Presenter	Usefulness of Materials	Total Average
Central	2/21/08	6	4.50	4.67	4.50	4.56
Tidewater	2/5/08	10	4.60	4.80	4.60	4.67
Valley	12/12/07	16	4.50	4.81	4.81	4.71
Valley	4/9/08	10	4.80	4.80	4.80	4.80
Valley	5/14/08	22	4.73	4.95	4.82	4.83
Valley	7/9/08	16	4.75	4.81	5.00	4.85
Tidewater	8/5/08	9	5.00	4.89	5.00	4.96
Roanoke	7/18/09	8	5.00	5.00	5.00	5.00
Roanoke	8/15/08	5	5.00	5.00	5.00	5.00

Successes in the Virginia Communities of Practice in Autism

In addition to the meetings being valuable and participants gaining more knowledge and skills, many other aspects of the Virginia Communities of Practice in Autism were successful. The communities of practice model took hold in every region, with good leadership and a core group of practitioners actively engaged, participatory, and committed. The CoPA leaders communicated well with CoPA members. As a result of CoPA meetings, many parents and professionals are incorporating the information and awareness they gained and making an impact on children with autism spectrum disorder.

Good Leadership

All of the leaders had prior experience in autism and early intervention. They were enthusiastic about leading a community of practice, learning more about autism, and making an impact on service delivery in their region. They worked hard to engage parents and professionals, develop resources, find speakers, provide materials, create meaningful activities, and communicate with members. The leaders chosen were obviously skilled in leading programs and staff, conducting meetings, and staying focused. In speaking of the contributions of her co-leader, one leader said, "There aren't that many people in the state who have that knowledge, that time, those skills, that philosophy."

Several leaders mentioned specific features of their community of practice that led to its success. Some of these aspects include the following.

- Norms and meeting rules established at the beginning (e.g., no cell phones, time limited to one hour)
- Sharing leadership with a co-leader.
- Consistency of meeting location.
- Consistency of date and time of meetings (e.g., second Wednesday of each month.)
- A close network of professionals already established in their region.
- Knowledge and attentiveness to the unique needs of the region.

Active Participation in the Communities of Practice

CoPA participants represented a diverse group of organizations and affiliations, including:

- Early Intervention system managers
- Early Intervention service coordinators
- Teachers
- School administrators, other school personnel
- School psychiatrists
- Developmental specialists
- Family Preservation representatives
- Community Services Board staff
- Speech therapists
- Headstart
- Public health nurses
- Pediatricians and other physicians
- Speech, occupational, and other therapy providers
- Part B and Part C staff

"What was rich was all these people sitting in a room hearing each other's perspectives. 'Now I understand why school people do what they do,'" said one leader. Another said the community of practice "opened doors between early intervention and other professionals." When asked what was working best for her community of practice, another leader remarked, "the diversity of the group."

Many of the leaders answered that the thing working best for their communities of practice was the core group. "They're very supportive and committed," said one leader. Nine of the ten leaders indicated that they had a strong core of participants in their community of practice. "They've learned a lot, as I have. They enjoy talking with other professionals and parents about issues in common," said one leader who noted that many participants stayed after the meeting.

The number of participants who comprised a core group varied between the communities of practice. Most regions had a core group of 10 – 20 people, though two regions had a core group of 6 – 8 people. Similarly, the affiliations of the core groups varied, with one community of practice having mostly parents and another having very

few. The involvement of school personnel, Headstart, and medical practitioners varied in the different communities of practice. The professionals who tended to comprise most core groups throughout the state include system managers, service coordinators, special education teachers, therapists, and Part C staff.

CoPA leaders found that participants are committed to their CoPAs for many of the same reasons, such as the opportunity to learn more about autism, support by members' employers to take the time to attend, and an opportunity to create more awareness. "They enjoy talking with other professionals and parents about issues in common," said one leader.   In some CoPAs, strong connections developed out of common concerns and philosophy.

Communication

While few leaders blogged, all of them were actively involved in frequent communication with members of their community of practice. At least one leader sent out articles and other information between meetings. The leaders frequently used email to recruit members and guest speakers, notify members and guests of upcoming meetings, and respond to questions. One leader directed blogged questions to her email system so that she could quickly read and answer incoming emails.

Outcomes of the Communities of Practice in Autism

At the last meeting of each CoPA, members were asked to rate the extent to which the meetings addressed problem solving and action planning, and increased knowledge, awareness, and skills. The quality of the meetings were evaluated on a five point scale, from 1-"Poor" to 5-"Excellent." As shown on Table 6, participants rated each item high, particularly the increased knowledge of early intervention providers and parents.   The average rating was 4.00 for problem solving and action planning; 3.98 for

Table 6. Impact of Meetings

	n	**Mean**	**% Rating Item "Excellent**
Problem solving and action planning (i.e making recommendations for practice for providers or systems)	42	4.00	40%
Improving knowledge and skill of early intervention and preschool providers through the review of case studies, practice, hands-on activities and demonstration.	41	3.98	37%
Increasing awareness and knowledge of early intervention and preschool providers through lecture, guest speakers, review of resources.	41	4.24	49%
Increasing awareness, knowledge and skills of providers, parents, and other community members, including parent organizations and others.	42	4.21	43%

improving knowledge/skill through case studies and activities; 4.24 for increasing knowledge through lectures and guest speakers; and 4.21 for increasing knowledge/skills of providers, parents, and other community members.

CoPA members learned about a variety of issues related to autism spectrum disorder. Some of the areas that the participants learned about include Medicaid waivers, joint attention, treatment, terminology, resources, pivotal response training, nutrition, behavioral strategies, neurological and sensory issues, ABA, picture communication system, video modeling, communication methods, positive behavior support, and floortime. One wrote that s/he learned "A lot about how to stimulate a child or discourage inappropriate stimulating behavior" and a parent said she learned "A lot! Our son has some issues that we discussed today (haircut, toothbrushing) and got great suggestions for." One professional wrote, "I have learned more in an hour from the speaker than longer periods researching and consulting with staff."

Participants in one CoPA learned about the resources and services of a pediatric neuro-developmental clinic, its clinic process, AAP guidelines, referral process, screening, testing, role and function of each member of the evaluation team, and the M-CHAT. This clinic was the most heavily attended meeting, with 56 persons in attendance completing the evaluation form. Several members indicated that the clinic meeting will help them in referring families to the clinic, help the professional ask the parent more specific behavioral questions, and help families understand how the clinic works. One participant who attended the clinic meeting wrote, "I was interested in the fact that detection is so poor without screening tests. This may impact how we look at SSI applications who have not been screened." One wrote that s/he is now more aware of "red flags at ten months" and a mother of a child with autism learned about NICU followup. "I wish I had known that when my son was discharged from the NICU," she wrote."

As a result of the communities of practice, many participants plan to make changes. Several participants noted that they will incorporate what they learned into conversations with parents. "(I plan to) teach parents more fundamental skills when working with their child," wrote a participant. Others noted that they will pursue additional information, such as the participant who wrote "I plan to dig into some of the resources presented." Another one intends to "Read up some more/ learn more about the floortime approach since it corresponds more with my beliefs than the ABA that I've been trained in."

Several participants noted that their perceptions and the way they work with families changed as a result of the CoPA meetings. One participant wrote that as a result of the meetings, s/he will "Look at the whole feeding issue as a family--try not to place my values on what mealtime should be like. Help parents see the whole picture." Some comments written by professionals and parents who attended CoPA meetings reflect other ways they intend to make changes.

- "It is difficult to determine disability on very young children with autism. I plan to educate my staff in looking beyond the most obvious communication problems and assess the whole child."
- "Different ways to work with families as they get a diagnosis--that we need to think about meeting parents where they are in the acceptance process/ where families may be getting info & the info we can share with them."
- "I learned that even though we can't diagnose, parents deserve our honest opinions. We shouldn't be afraid to be honest even though the information may be difficult."
- "How to help children transition into unappealing activities. Also, how to help parents better understand the power they can have in the child's life."
- "As a parent, I'm going to try to evaluate the situations that lead to the 'not great' behaviors to find out what is triggering them. Love the idea of giving choices, too."
- "Pay closer attention to my non-verbal communication with children."
- "Evaluate a child's environment more closely, as well as other areas of sensory input."
- "The importance of looking at the whole picture. Not just the 'bad' behavior-but all that leads up to it."

A pre-test and post-test instrument was given to participants to assess the extent to which participants gained knowledge, skills, and abilities about working with children who have autism. The analysis was confined to only those participants who completed both pre-test and post-test instruments and identified themselves on both instruments, a total of fifteen participants. Three of the participants were in the Southwest region, three were in the Northern Virginia region, three were in the Valley region, and six in the Tidewater region.

As indicated on Table 7, the fifteen participants averaged about 2 ("I know a little") for each topic at one of the first CoPA meetings. At the end, they averaged about 3 ("I know a fair amount about this topic.")

The table demonstrates the gains made for each topic area. Participants indicated that their knowledge, skills, and abilities increased in each of the 15 topic areas except two areas, in which the knowledge remained the same. The largest gain in knowledge was in "Evidence-based intervention for young children diagnosed with ASD," with a 31 percent knowledge gain. For five of the topic areas, gains in knowledge were at least 20 percent.

Two topic areas showed no average change in knowledge gained--Play to motivate children and teach imitation and Functional communication (e.g., responding, using words). Of the fifteen participants studied, seven indicated that they knew "a fair amount about this topic" at both the pre-test and post-test. Those who knew little about these topic areas at the pre-test gained more knowledge—with a 25 percent gain in knowledge about play to motivate children and a 45 percent gain in knowledge about functional communication.

Table 7. Pre-test and Post-Test Knowledge

	Pretest Mean	Posttest Mean	Gain	% Gain
Evidence-based intervention for young children diagnosed with ASD	2.07	3.00	0.93	31%
Intervention strategies that can be used in the home/other natural environments	2.27	2.87	0.60	21%
Intervention strategies that can be used during daily routines	2.27	3.00	0.73	24%
How to help parents understand ASD and intervention that works	2.43	2.87	0.43	15%
How to teach parents strategies for enhancing their child's development	2.20	2.93	0.73	25%
Writing goals and objectives for IFSP/IEPs for children with ASD	2.57	3.13	0.57	18%
How to connect or work with other providers to address issues and solve problems	2.93	3.07	0.13	4%
Social interaction and joint attention	2.60	2.93	0.33	11%
Play to motivate children and teach imitation	3.00	3.00	0.00	0%
Functional communication (eg., responding, using words)	2.87	2.86	-0.01	0%
Modifying the learning environment (eg., out-of-reach, time delay)	2.73	2.87	0.13	5%
Changing behaviors that interfere with interaction (eg., spinning)	2.20	2.52	0.32	13%
Handling difficult behavior (eg. biting, tantrums)	2.20	2.57	0.37	14%
Sleeping issues (eg., bedtime fading, extinction)	1.80	2.47	0.67	27%
Eating and nutrition issues	2.20	2.60	0.40	15%

Problems in the Virginia Communities of Practice in Autism

The major problems observed in the Virginia Communities of Practice in Autism pilot had to do with 1) limited prior experience with communities of practice; 2) leaders working in isolation; 3) conflicting work priorities; and 4) distance to meetings. These problems are the major reasons that of the ten CoPA leaders, only one is committed to continuing in a leadership role next year. Three of the leaders are undecided and six indicated that they cannot continue in a leadership capacity, though most of them are still interested in maintaining a community of practice. Each of the four problems is explored.

Limited Prior Experience

The lack of prior experience made the first year challenging in terms of direction and how to get there. Several leaders initially conceptualized their role as being something with which they were more familiar, such as a training or a train-the-trainer situation. The inexperience was demonstrated in different ways, including:

- Only some of the leaders were familiar with the concept of "community of practice."
- Leaders seemed to understand their role as providing leadership and facilitation more than engaging members and networking.
- CoPA leaders tended to discuss their meetings in terms of providing training or workshops.
- Leaders wanted more direction and guidance from the State.
- Few leaders even mentioned "community of practice" when referring to their group.

Leaders Working in Isolation

Many CoPA leaders felt they worked in isolation, either internally or externally. One leader remarked, "I felt isolated…There should have been more support. We talked about mentoring, getting together as CoPA leaders, but we didn't." While communities of practice are group-directed entities that work together on self-developed goals and work processes, the Virginia Communities of Practice in Autism was created externally through the State. As a result, some regional CoPAs expected greater involvement, direction, leadership, and monitoring. Others liked the State's message to "make the community of practice your own," yet had great difficulty engaging CoPA members to accept leadership responsibilities. Leaders often felt frustrated that they had to do everything themselves and some were resentful of both the State and their own members.

The absence of other practitioners assuming leadership roles was particularly an issue among those without co-leaders to share their region. Leaders had difficulty getting others to take on facilitator or leadership roles, even as substitute leaders. One leader noted that nobody in her group really "took ownership" of the CoPA and several worried that nobody will volunteer to be the CoPA leader after they leave. One CoPA leader, in fact, said that she will withdraw completely from the community of practice because she did not want to be pulled into a leadership role.

One CoPA leader talked at length about how communities of practice should be a group of people meeting who identify needs and content and from there, develop a community of practice. She feels that it doesn't work as well when an external force creates a community of practice model, and she complained that the State expects communities of practice to work yet does not provide needed support. She is afraid that the fact that the CoPAs did great work will lead to the State using it as an excuse to discontinue any funding. She sees a real problem not just with lack of a paid person to

lead a community of practice, but that the right person must be the leader—someone with the right experience, knowledge, philosophy, and leadership skills.

Another leader was frustrated that the State did not require greater consistency in the training topics that the communities of practice addressed. She felt that all of the communities of practice should be learning the same information so that everyone in the field of autism was operating from the same perspective and information. "My feeling is it would have been better more prescriptive—to be sure people are getting consistent information across the state. Some CoPAs had virtually no content," said this leader. Another leader indicated that the State needs to not only provide consistent help to the communities of practice, but to also take a stronger stand in terms of the services a child with autism could access. This leader said, "One thing I heard over and over was frustration that there's no answer from the State about what we should be doing in terms of services. With the research in ABA, some of the frustration is that there's no consistent thought across the board, but maybe there's no right answer."

Conflicting Work Priorities

Nearly all of the leaders talked about the problem of work priorities and time constraints. While many leaders understood from the beginning their role and responsibilities, several CoPA leaders complained that they did not expect the time demands. "I was not expecting the time commitment. I wasn't able to give the time needed for the CoPA or I was pulled away from my regular work" said one leader. "It was exhausting," said another leader. "I understood the responsibilities, but they underestimated the time it took," reiterated another.

Most of the leaders spent an average of 1 to 2 hours per week on their community of practice. During weeks in which leaders were organizing upcoming meetings, planning the agenda, coordinating logistics, and setting up speakers, participants typically spent 4 – 5 hours per week. Two leaders spent a lot of time on their community of practice, often 10 – 15 hours per week or more. Half of the leaders could work on the CoPA as part of their work week; the other half worked on the CoPA during evenings and weekends. One leader worked on CoPA during days off, evenings and weekends when she was setting up a meeting but could incorporate CoPA work into her regular workweek between meetings.

The problem for many, though, was not the number of hours required to run the CoPA so much as trying to balance their job and CoPA responsibilities simultaneously. "I fit it in during the work week, but I wasn't able to work on the projects I'm paid to do," said one leader. "We're inundated. Our program has higher numbers and no new positions. There's not a lot of time," said another leader, whose supervisor requested her to discontinue leading the community of practice. The work/CoPA conflict seemed more problematic for the leaders who have job positions in which they supervise others or oversee large programs and have to fill in for absent staff or vacancies.

As a result of time limitations, CoPA leaders rarely blogged. "I don't have a lot of time—it's not a priority area," replied one leader when asked about blogging. The issue seemed clearly related to time constraints and priority conflicts, not experience with blogging. In fact, one of the few leaders who did blog had never blogged previously. CoPA leaders used the blog primarily to post meeting minutes. Ironically, leaders often mentioned how much they learned from other CoPA leaders and how they would have liked more opportunities to hear how the other communities of practice were going.

Distance to Meetings

The long distances to meetings were cited as problems by six of the leaders. They complained that it was inconvenient for participants and for themselves to drive 1.5 to 2 hours, which was common throughout the state. In one area of the state in which travel time is a major factor and the population of children with autism is small, the attendance at CoPA meetings dwindled. One leader suggested that she would have preferred having fewer meetings, but that the meetings last longer. Another leader held meetings for smaller groups in addition to the large CoPA meetings.

Other Problems

In addition to the previously mentioned problems, each CoPA had its own unique challenges and barriers. These included:

- Lack of interest by key groups of people, which varied throughout the state. In one region, school personnel expressed interest but did not show up for meetings; in other areas, Part B staff did not attend.
- One CoPA leader is struggling to maintain funding for her office.
- Strong personalities in the group with specific agendas.
- Attendance was low or inconsistent from less populated, rural areas with few incidences of Autism Spectrum Disorder.

Need for Additional Study

While the evaluation of the Communities of Practice in Autism discovered a number of strengths and weaknesses, the evaluation is limited because it could not adequately determine the extent to which the Virginia CoPAs are a true community of practice. On the one hand, the CoPAs followed Wenger's model in which members are committed and actively participate in problem-solving, information sharing, and knowledge building. On the other hand, it is unclear whether or not the CoPA operated differently from the following definition of communities of practice, and it is unclear how this difference is problematic:

"Groups that learn, communities of practice, have special characteristics. They emerge of their own accord: Three, four, 20, maybe 30 people find themselves drawn to one another by a force that's both social and professional. They collaborate directly, use one another as sounding boards, teach each other.

More than a 'community of learners,' a community of practice is also a 'community that learns.' Not merely peers exchanging ideas around the water cooler, sharing and benefitting from each other's expertise, but colleagues committed to jointly develop better practices.[2]

Other questions to explore are whether communities of practice can be effectively initiated from an external source and whether the CoPA can be effectively started statewide. Can a grouping be considered a CoPA if the State has specific requirements that the individual CoPA does not want to meet? How can a community of practice in autism "emerge of their own accord" by parents and professionals when so few people are willing to assume leadership? How can the State best support and facilitate the growth and development of communities of practice in autism?

Evaluation questions could also include the level of networking, participation, networking, and leadership within a community of practice model, and the extent to which participants see the CoPA as networking or staff development. Continued study also needs to address the role of parents in the CoPA and the extent to which their role is participatory and not just perfunctory. In the dissertation study *Parents and teachers talking: a community of Practice?*[3], Laluvein cautions that simply involving parents of children with special needs and increasing parental contact at schools does not create a community of practice and that professionals listening to the family's voice is critical.

Recommendations

There are a number of ways the State can provide support to CoPAs, many of which were done during this pilot phase. The following are some ways in which the State can support the CoPA leaders:

- Provide training on how to engage and empower members.
- Help leaders recognize that the process of creating a viable community of practice necessitates time for word-of-mouth to reach those who could be active participants.
- Make roles and responsibilities clear from the beginning, for both CoPA leaders and for CoPA members.
- Provide resources, training, and mentorship on how to build a community of practice.
- Provide more extensive resources on autism so leaders can spend their time on relationship-building and networking, not on developing content for the meetings.

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[2] George Pór. Community Intelligence Labs. Retrieved Sept. 9, 2008 from http://www.co-i-l.com/coil/vision/index.shtml

[3] Jacqueline Laluvein. (2007). *Parents and teachers talking: A community of practice? Relationships between parents and teachers of children with special educational needs,* Phd dissertation, University of London, England.

- Help leaders get started. Provide speakers lists, resources, suggested meeting activities, and potential participants.
- Review training materials and resources to assess the extent they are user-friendly and can be utilized by parents and professionals with a wide range of experience and knowledge of Autism Spectrum Disorder.
- Prepare leaders upfront that they need to have frequent communication with members, which can be time-consuming.
- Provide incentives for leaders to continue in their leadership role. The opportunity to talk with others about autism issues is enough to keep most committed to the CoPA, but not enough a reason to continue as leaders.
- Recruit parent, school, and related service provider groups to participate in CoPAs.
- Create State-administered mechanisms for leaders to hear how other communities of practice are doing (e.g., website, information and resources, links to other disability-specific communities of practice, inter-regional and state meetings and conferences, newsletter, etc.) with an expectation that most CoPA leaders will minimally contribute initially.
- Support leaders through frequent communication.
- Create strategies for minimizing leader isolation and feeling overwhelmed by sole responsibility; e.g., establish co-leaders for each CoPA, solicit persons who can act as substitutes when needed, visit CoPA meetings to observe, provide feedback, and support successes.
- Work with the supervisors of CoPA leaders to integrate the CoPA responsibilities into the leaders' workweek as a priority and routine aspect of their job requirements.
- Clarify upfront the responsibilities that are mandatory and those that can be determined by the leaders, such as blogging.
- Provide more flexibility in the number of meetings and clarify expectations. For example, can CoPAs have a meeting for just school personnel, in order to engage more school personnel and limit travel time for other CoPA participants? Can CoPAs have three 3-hour or four 2-hour meetings to minimize travel time? Can CoPA leaders co-lead two communities of practice?
- Clarify the topics that must be covered and identify non-mandatory topics. Allow CoPAs to expand on content or modify the topic areas to meet the needs of their region and their communities of practice.
- Monitor the extent to which leaders are completing evaluation forms so that meeting evaluations and pre-test/post-test knowledge gains can be assessed.

Appendix A
CoPA Community of Practice Leader Survey

CoPA Community of Practice Leader (CPL) Survey

I.
What is your current position?

How long have you worked in Early Intervention?

Did you participate in the development of the Communities of Practice Proposal?

II.
Is the purpose of the CoPA clear to you?

Are providers, families, and others in your region interested in improving supports and services for young children with ASD and their families? How do you know?

What ASD issues and needs are specific to your region? How were these determined?

III.
Why did you apply to become a CoPA Leader for your region?

Was the CPL role and your responsibilities clearly stated and understood from the beginning?

How much time per week are you devoting to the CoPA? Is this part of your work week?

Are the training materials adequately supporting your efforts? (example: Are you using the notebook that was provided at the CoPA leaders' training?)

Have you covered the topics that were provided in the CoPA leaders' manual? If no, why?

How often are you blogging?
- Is the blog helpful?
- Why/why not? (have you ever blogged before?)

What additional support(s) do you need to assist you in facilitating this CoPA?

IV.
What is the purpose of your CoPA?
- Who is invited to participate?
- Where are you meeting?
- How are they notified of meetings?

Is there a core group of people who are active participants in your CoPA?
- Who are they (name, current position, how are they participating)?
- Why are they committed to your CoPA?

How many CoPA meetings have been held? Describe your activities.

Is your CoPA successful? How do you measure CoPA success?

What are the barriers to the implementation and growth of your CoPA?

What's working for your CoPA?

V.
Are you willing to continue as the CoPA leader?
- Why/why not?

In reviewing the mission statement and outcomes that the CoPA leaders established at the initial meeting, do you believe the CoPAs have met their goals/been successful? Why/why not?