Building Capacity to Teach Students with Disabilities in California

PACE Webinar Series on Special Education
Webinar 2 of 3
March 5, 2020
9:00 – 10:00 am

@edpolicyinca
How Are Students With Disabilities Being Served & What Could Be Done Better?

- Students are not always identified for services, though early screening and intervention has been shown to have long-term benefits and cost savings.
- Inclusion rates are low in California, though SWDs benefit from inclusion in general education settings.
- There is a shortage of special education teachers and insufficient preparation and support for general education teachers to teach SWDs in inclusive classrooms.
- Health services are not readily available in California schools that could benefit many SWDs.
- MTSS is not adequately resourced. Full implementation of California’s Multi-Tiered System of Supports would support the success of all students.
- Transitions between services are bumpy and can be confusing and burdensome for SWDs and families.
What Can Be Done to Support Schools to Serve SWDs?

- Establish positive expectations around inclusion of SWDs in general education classrooms.
- Develop capacity of special education teachers, general education teachers, and administrators to meet the needs of SWDs.
- Systemize and communicate data on services and outcomes for SWDs.
- Foster interagency collaboration between multiple child-serving systems.

Conclusion: The path toward meaningful improvement for the support of SWDs in California will require substantial, systematic, and sustained investment to deliver the special education and services that students with disabilities in California deserve.
Panelists

Rachel Lambert  
UC Santa Barbara

Naomi Ondrasek  
Learning Policy Institute

Jacob Kirksey  
UC Santa Barbara

Aubyn Stahmer  
UC Davis
Increasing Access to Universally Designed Mathematics Classrooms

Rachel Lambert
Assistant Professor
Gervitz Graduate School of Education
University of California Santa Barbara
What is the problem?

• Achievement gaps in mathematics for students with disabilities
• Will we find the answer in learning more about cognitive deficits?
• Or access to challenging mathematics?
Access to Challenging Mathematics?

• CA CCSSM:
  • demanding content standards
  • increased engagement in problem-solving and mathematical discussion (Standards for Mathematical Practice)

• Do SwD have access to standards-based mathematics?
  • Separate special education classrooms limit access to grade-level curriculum.¹
  • Even when included in general education mathematics classrooms, students with disabilities still experience barriers to accessing standards-based curriculum.²
Research on Math and Students With Disabilities Under the Common Core State Standards

- Pronounced differences in the research on math education compared with special education math education.³

- Special education math research is strongly focused on direct/explicit instruction of skills and procedures. While significant research findings in that area are important, this research direction assumes that students with disabilities need to be told how to think mathematically.⁴

- Students with disabilities show learning gains within multi-modal, inquiry based curriculum.⁵ ⁶

- Still, only small amounts of research using constructivist or sociocultural learning theories. Little guidance for educating students with disabilities within inclusive classrooms learning the CA CCSSM.³
Universal Design for Learning (UDL)

• Design classrooms in which a wide range of learners can thrive
• Emerged from Universal Design in architecture and product design
• Grounded in the Learning Sciences- developing expert, strategic learners
• Grounded in neuroscience
  • learner variability
  • leveraging interconnected networks in the brain
    (affective, strategic, recognition)
• Design begins with empathy— identify barriers and design around them
Barriers in Math Class for Students with LD

Like math—I could be right in the front row getting all of the information. ... It doesn’t click right away in your head. I mean, you’re staring at it but it’s not there at that moment while everyone else—it clicks to them real fast. After a while you’re just standing there on pause, just looking at the example and it’s not feeding it to your brain.

(Connor, 2008)
Barriers in Math Class for Students with LD

There was the nightmare of the multiplication tables. It wasn’t the concept of multiplying that I had trouble with. It was memorizing the tables and then having to retrieve them quickly. I was not actually doing math, I was doing “rapid naming,” which is a process that can create tremendous hurdles for dyslexic readers throughout their lives. (Tessler, 2008)
Barriers in Math Class for Students with LD

- Limited avenues for learning mathematics in traditional instruction
- Focus on speed and memorization
- Limited development of conceptual understanding
- Emotional aspects of mathematics
Engagement

The "why" of learning; the feelings, values, or emotions that can influence attitudes toward learning.

Classroom climate

• Develop a safe classroom community in which students are comfortable taking mathematical risks

• Shift away from valuing mathematical speed towards valuing mathematical thinking and persistence

Relevance

• Make mathematics class focused on relevant, engaging and culturally responsive contexts

• Provide students choice in how they engage in mathematical problem-solving (i.e. individual, pair and group)
Representation

Core ideas

• Design central tasks around core mathematical ideas
• Develop a sequence of tasks that engage students in the necessary learning to understand the core ideas
• Offer meaningful practice and explicit review of core ideas

Multimodal representations

• Mathematical representations are central and developed purposefully over time
• Attention to connections between multiple representations
• Make representations accessible through other modalities

The "what" of learning; how we identify information and categorize what we see, hear, and read.
Strategic action

Support for strategy development

• Offer opportunities and support for sustained problem-solving, collaboration and discussion (SMPs)

• Provide support for students to explicitly generalize their strategies

The "how" of learning; it is through strategic networks that we plan, execute, and monitor our actions.
Policy Recommendations

• Provide sustained, research-based professional development in CA CCSSM and UDL for all teachers (focus on special educators) and administrators
• Invest in Tier I instruction using UDL as a design framework
• Connect IEP goals to CA CCSSM, particularly SMPs
• Advocate for research on the inclusion of students with disabilities
References


California’s Special Education Teacher Shortage

PACE 2020 Annual Conference
February 7, 2020

Naomi Ondrasek, Senior Researcher and Policy Advisor
@LPI_Learning
Goals and Methods

- Provide an update on the status of the shortage
  - CTC data on teacher credentials
- Identify factors that may contribute to attrition
  - Literature review
  - Focus group of special educators
Achievement gaps have grown

187 districts/COEs need differentiated assistance based on poor outcomes for students with disabilities

Special educators with more extensive preparation:
- Boost achievement for students with disabilities
- Are better prepared to use a variety of instructional methods
- Are less likely to turn over
The Shape of the Shortage
Nearly 5,000 New Special Education Teachers Entered the Field Underprepared

New Special Education Credentials and Permits, 2013-14 to 2017-18

Source: California Commission on Teacher Credentialing data dashboard.
Over 1/5 Teachers from Special Education Schools Turn Over

Between 2015-16 and 2016-17:
- 13.4% left the profession or state
- 7.3% moved between schools
Factors That Impact Special Educator Attrition
Underprepared teachers leave at twice the rate of those who are fully prepared.

Intensive preparation and professional learning experiences can help improve both teacher retention and efficacy.

Special education preparation in CA is far less intensive than in other states.
State law does little to limit high caseloads

Support from colleagues and administrators impacts special educators’ decisions to remain in the field
Special education teachers cite low salaries as a reason for leaving.

Student debt deters candidates from pursuing teaching careers.
Recent State Investments
Recent State Investments in the Education Workforce

<table>
<thead>
<tr>
<th>Program</th>
<th>Amount and Year</th>
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<tr>
<td>Special Education Local Solutions Grant Program</td>
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<tr>
<td>Teacher Residency Grant Program</td>
<td>$75M for teacher residencies ($50M special ed, $25M STEM/bilingual) (2018)</td>
</tr>
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<td>Golden State Teacher Grant Program</td>
<td>$89.75M (2019)</td>
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<tr>
<td>Educator Workforce Investment Grant Program</td>
<td>$37.1M (2019)</td>
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</table>
A Comprehensive Policy Approach to Improve Recruitment and Retention

1) Strengthen the pipeline with recruitment incentives for high-retention pathways
2) Improve the quality of and access to preparation
3) Expand and strengthen professional development
4) Improve working conditions for special education teachers
5) Increase compensation
Understanding Teacher Shortages in California

Stay Up to Date!

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bit.ly/LPlupdates

Understanding Teacher Shortages in CA
learningpolicyinstitute.org/product/interactive-map-understanding-teacher-shortages-california

Email Naomi Ondrasek, Senior Researcher & Policy Advisor
nondrasek@learningpolicyinstitute.org
Preservice Preparation of Teachers to Support the Inclusion of Students with Learning Disabilities

Michael Gottfried & Jacob Kirksey
PACE Special Education Research Meeting
February 7, 2020
### Accountability

- Individuals with Disabilities Education Act (1997, 2004) heightened expectations that students with disabilities be educated alongside peers without disabilities.
- No Child Left Behind incorporated accountability expectations for the education of these students through teacher and school evaluations.
  - i.e. Under ESSA, only students with the most significant cognitive disabilities (1% of student population) are allowed to take alternative assessment.

### Changing Classroom Compositions

- More students with learning disabilities (SWLDs) are spending a majority of their school day in general education classrooms than ever before.
  - 1989: 11% of public school SWLDs spent over 80% of instructional time in general education.
  - 2015: This number jumped to 68%.
- End goal is that *all* students make yearly academic progress.
Policy Context – Teacher Preparation

**Educating SWLDs**

- Teachers face more responsibility than ever before to facilitate high-quality education in inclusive classrooms for students with and without disabilities.
- As a result, teacher education programs are confronted with increased pressure for producing teachers who are prepared to teach in inclusive classrooms.
- Challenge: Traditionally, preparation for teaching SWDs has been isolated for only candidates receiving a special education credential.

**Added Licensure Requirements**

- Teacher Performance Assessments (TPAs) act as one method of streamlining teacher preparation for traditional certification.
- edTPA – adopted by over 900 programs across 41 states – is a rigorous TPA designed to assess candidates’ readiness to teach.
- edTPA contains subject-specific rubrics and requires candidates to collect data in teaching placements with which to reflect on practice.
Teacher Performance Expectations

- The California Commission on Teacher Credentialing has set “an expectation that both tasks and rubrics have a focus on teaching students with disabilities placed in the general education classroom” (Sandy, 2016)

- Programs and their candidates are held accountable for meeting these TPEs

- These TPEs go hand-in-hand with preparing for edTPA

Teacher Performance Assessments

- Programs can use one of three TPAs to assess candidates near the end of their preparation: CalTPA, edTPA, or FAST

- 49 programs use edTPA

- Rubrics include areas where candidates must demonstrate an understanding of teaching students with disabilities and other diverse learners
## Our Study

### Research Questions

1. Do pre-service teachers perceive themselves as ready to educate SWLDs in general education classrooms?

2. At the time of graduation, do pre-service teachers’ perceptions of various qualities of their training (e.g., coursework, fieldwork, edTPA) link to their perceptions of readiness to educate SWLDs in general education classrooms?

3. Do these related perceptions differ between elementary and secondary pre-service teachers?
Limited Research to Inform Us

**Teacher Education for SWLDs**

- Teacher education for working with students with and without disabilities is still not well-integrated
- Co-teaching, multiple methods of engagement, and learning tools for students with learning disabilities are new to general education teacher prep
- Expansive literature notes the struggle in shaping dispositions of candidates

**Performance Assessments**

- Okhremtchouk et al. (2009) and Margolis and Doring (2013) note inconsistency in messaging about edTPA within programs, particularly among cooperating teachers
- Ledwell and Oyler (2016) and Ratner and Kolman (2016) note inconsistency among faculty within programs
- Cohen, Hutt, and Gottlieb (2018) found variation in the implementation and support for edTPA as well as inconsistency in how edTPA was aligned with broader program goals
Study Sites

University of California Teacher Education Programs

- 7 UC campuses used for our study
  - Excluded two that were undergoing program reorganization
  - 1 campus was used as pilot study
- Study 1: 69 preservice teachers
- Study 2: 473 preservice teachers
- Survey
  - 15-20 minute surveys online via Qualtrics
  - Demographics of candidates, undergrad GPA, license type, Likert scales for perceptions of program and preparation to work with SWLDs
<table>
<thead>
<tr>
<th>Gender</th>
<th>Study Sample Percentage</th>
<th>California Percentage*</th>
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<tbody>
<tr>
<td>Male</td>
<td>22</td>
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<td>Female</td>
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<tr>
<td><strong>Total Number of Pre-Service Teachers</strong></td>
<td><strong>473</strong></td>
<td><strong>23,766</strong></td>
</tr>
</tbody>
</table>

## Outcomes

### General Support
- Overarching statements of preparation to work in inclusive classrooms
  - i.e. “I feel prepared to use IEPs to effectively teach students with disabilities”

### Instructional strategies
- Specific instructional strategies prior literature notes being important for teaching SWLDs
  - i.e. “I feel prepared to model co-teaching in classrooms with students with learning disabilities”
Program Characteristics

Helpfulness

- Utility of edTPA for becoming a teacher
- "edTPA helped me become a stronger teacher"
## Program Characteristics

| Helpfulness | Utility of edTPA for becoming a teacher  
|             | "edTPA helped me become a stronger teacher" |
| Alignment   | edTPA aligned with other aspects of preparation  
|             | "My instructors mentioned edTPA in courses" |
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- Perceived support from supervisor
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- Program was cohesive in goals and expectations
- "My program articulates a clear vision of teaching and learning"
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Program Coherence
- Program was cohesive in goals and expectations
- "My program articulates a clear vision of teaching and learning"

Placement
- Placement was in line with candidates' expectations
- "Was your student teaching placement consistent with your expectations with regard to students' socioeconomic status"
Analysis

\[ Y_{ij} = \beta_0 + \beta_1 B_{ij} + \beta_2 P_{ij} + \beta_3 E_{ij} + \varepsilon_{ij} \]

**Baseline model**

- Y – SWLD scale
- B – Background characteristics of candidates
- P – Characteristics of programs
- E – Elementary credential
- Error – Clustered at the program level
Limiting Comparisons to Within Programs

<table>
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<th>Unobserved variation</th>
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<tbody>
<tr>
<td>• There may be unobservable variables from data that we did not collect that is biasing estimates</td>
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<tr>
<td>• Considering we are interested in program factors, it is important to control for potential unobserved variables between programs</td>
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<tr>
<td>• Similar to multilevel modeling, but accounts for selection into programs (Hoxby, 2000)</td>
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<table>
<thead>
<tr>
<th>Program fixed effects</th>
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<tr>
<td>• Some programs may have a long history of working with schools with established protocols for educating SWLDs</td>
</tr>
<tr>
<td>• It may be the case that these programs’ history of working with these particular schools creates a program that is perceived as more coherent, because these long-established partnerships</td>
</tr>
<tr>
<td>• Thus, it may seem like program coherence is predicting readiness for working with SWLDs, but there is a program-level factor-long-established school partnerships- that is predicting readiness and perceptions of coherence</td>
</tr>
</tbody>
</table>
Results
Figure 1. Preparedness to provide general support in inclusive classrooms from 2018 survey in UC teacher preparation programs
RQ 1: Prepared to Use Instructional Practices

Figure 2. Preparedness to use instructional practices for SWLDs from 2018 survey in UC teacher preparation programs
Study 1: General Support

Coherence

• Coherence significant across models
• Candidates who perceived a consistent vision in their program also felt that they had sufficient knowledge of IDEA and preparation for special ed policies at school

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<th>Candidate characteristics</th>
<th>(1) Policy Knowledge</th>
<th>(2) Adequate Preparation</th>
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Standard errors in parentheses
*** p<0.001, ** p<0.01, * p<0.05
Helpfulness of edTPA

- edTPA helpfulness matters
- Candidates who believed edTPA was helpful in becoming a teacher also felt more prepared to work w/ SWLDs
- Outcome includes general teaching, lesson planning, supporting LD-specific IEP support, and assessment

### Study 2: Instructional Strategies

<table>
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### Observations
- 69
- 69
- 69

R-squared
- 0.18
- 0.21
- 0.60

Standard errors in parentheses

*** p<0.001, ** p<0.01, * p<0.05
Two Associations Emerged

- Candidates who perceived their programs as more coherent tended to feel better prepared to provide general support and use instructional practices suited for SWLDs.
- Candidates who felt stronger support from their university supervisors in their field placement tended to feel better prepared to use instructional practices suited for SWLDs.

### Table 3: Estimates of pre-service teachers’ perceptions of preparation and feelings of readiness to educate SWLDs

<table>
<thead>
<tr>
<th>Perception of Preparation</th>
<th>General Support</th>
<th>Instructional Practices</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(β, SE)</td>
<td>(β, SE)</td>
</tr>
<tr>
<td>Ever worked with SWLD</td>
<td>0.49* (0.19)</td>
<td>0.52* (0.20)</td>
</tr>
<tr>
<td>Credential</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Elementary credential</td>
<td>-0.06 (0.13)</td>
<td>0.06 (0.12)</td>
</tr>
<tr>
<td>Special education credential</td>
<td>0.08 (0.34)</td>
<td>-0.14 (0.34)</td>
</tr>
<tr>
<td>Perceptions of preparation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Helpfulness of edTPA</td>
<td>0.06 (0.03)</td>
<td>0.06 (0.06)</td>
</tr>
<tr>
<td>Alignment between edTPA and program</td>
<td>0.11 (0.08)</td>
<td>0.02 (0.05)</td>
</tr>
<tr>
<td>University supervisor support</td>
<td>0.09 (0.09)</td>
<td>0.18* (0.07)</td>
</tr>
<tr>
<td>Program coherence</td>
<td>0.19** (0.05)</td>
<td>0.23** (0.07)</td>
</tr>
<tr>
<td>Placement expectations</td>
<td>0.11 (0.08)</td>
<td>0.05 (0.05)</td>
</tr>
<tr>
<td>Constant</td>
<td>-0.42 (0.30)</td>
<td>-0.25 (0.30)</td>
</tr>
<tr>
<td>Observations</td>
<td>473</td>
<td>473</td>
</tr>
<tr>
<td>Robust standard errors in parentheses</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*** p<0.001, ** p<0.01, * p<0.05
**Elementary vs. Secondary**

<table>
<thead>
<tr>
<th>Elementary</th>
<th>Secondary</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Same program characteristics were statistically significant when running fully interacted regressions</td>
<td>• No program characteristics statistically significant when running fully interacted regressions</td>
</tr>
<tr>
<td>• These associations grew in magnitude for elementary candidates</td>
<td>• No variable included in the models associated with secondary candidates perceptions of readiness to teach SWLDs</td>
</tr>
<tr>
<td>• Suggests that main results from study were driven by elementary candidates</td>
<td>• We gleaned no information as to what is adding to the preparation of secondary candidates</td>
</tr>
</tbody>
</table>
### Discussion

#### Helpfulness
- In study 1, candidates who believed edTPA was helpful for becoming a teacher tended to feel better prepared to use instructional strategies for SWLDs.
- Note: UC in pilot study was an early adopter of edTPA, suggesting the program might have been more coherent.

#### Program coherence
- Consistent finding across studies.
- Defined as consistency in goals and expectations.
- Cohen et al. (2018) note the importance of coherence for completing edTPA.
- Recommendation: Purposeful planning in programs.

#### Secondary candidates
- Only one association (a control variable) related to secondary candidates perceptions of readiness to support SWLDs.
- No program characteristics emerged for secondary candidates.
- Thinking about nature of working with SWLDs for secondary teachers…
## Purpose of edTPA

- edTPA and California TPEs purports to outline what teachers should know and be able to do

- To this end, edTPA required internal planning and external collaboration to ensure program is indeed helping candidates pass the assessment
  - Common sets of data, using the same language across program, bring faculty together

## Coherence

- Important to consider that edTPA may have instigated coherence across programs
  - Our findings perhaps support this aim of edTPA (not the assessment directly, per se)

- Coherence is cited as one of the most challenging aspects of edTPA implementation

- Faculty understanding of pillars of teacher education program, having candidates share assignment across courses, having candidates collaborate with other candidates across program
## Conclusion

### Limitations

- Survey data, not a true experiment
- Self-report: All scales are made up of perceptions of candidates
- No classroom data
  - No information on practices in placement or as licensed teacher

### Next Steps and Future Research

- Hope to follow up with candidates after initial year of teaching
  - Ask similar questions about programs, and then additional questions about students in their classrooms and teaching practices for these students
- Exploring differences for candidates with disabilities
- Considering the importance of coherence, more research is needed on the implementation of edTPA across programs and states
Acknowledgements
Improving Education for California Students Via Professional Development

Aubyn Stahmer
Kelsey Oliver
Patricia Schetter
Achievement Gap Challenge for Students with Disabilities

Graduation rate
Chronic Absenteeism
College/Career (10% prepared)
Mathematics (-119)
English Language Arts (-88.3)

12% of students (725,000) qualify for special education

88% Living in Poverty
75% Foster Care
84% English Language Learners
High Quality Professional Development can Help

Effective use of Evidence-Based Practices (EBP)
Keys to Effective Professional Development
Teachers need content on high incidence disabilities

Conduct basic introductory training for all educators in high incidence disabilities so they understand common strengths and learning needs.
Improve Attitudes & Beliefs about Evidence-Based Practices (EBP) & Inclusion

Focus PD on overcoming unconscious biases and improving understand of cultural, neurological, and environmental causes of challenging behaviors and learning deficits and benefits of inclusion for all students.
Use Effective Professional Development and Adult Learning Practices

- Use data-based needs assessment to choose relevant training. (program review; CA Dashboard; LCAP goals)
- Link training and knowledge to student and educator performance and district/state goals.
- Use evidence-based professional learning practices.
- Use objective data to determine PD effectiveness
  - Include skills based performance indicators
Key Components of High Quality Professional development

- Information Session
- Competency Training
- Implementation Coaching
- Feedback & Reflection
- Systems Support
Key Components of EBP Sustainment

- Ongoing Consultation
- Performance-Based Evaluation
- Professional Learning Communities
- Team-Based Problem Solving
- Data-Based Decision Making
Evidence-Based Practices Must Fit within a Multi-Tiered System of Supports

- MTSS framework recommended by CA
- Provides supports based on unique student needs
- Evidence-based practices are a fundamental component
- Framework can guide PD based on school, staff and student needs
MTSS incorporates EBP at multiple levels.

Students receive services at all levels, depending on need.
- Tier 3 PD for designated specialist staff
- Ensure training to use interventions with fidelity and to coach others

- Tier 2 PD for designated staff
- May include intensive reading instruction, social skills groups, increased home-school communications

- PD for all educators in Tier 1 EBP – Universal Design for Learning (UDL); classroom behavior management, social-emotional development strategies.
- Increase use of Tier 1 high quality instruction & universal screening for academic and social-emotional challenges.
Leaders Need Training in How to Support Effective Use of Evidence-Based Practices

- Educators cannot sustain new practices without support from leaders at all levels.
- Leaders need training in implementation support practices that are linked to successful ongoing use of effective practices.
- Leaders need to believe in effective education for students with disabilities.
- Train leaders in implementation leadership strategies that promote effective capacity building and successful implementation of new practices.

Examples:
- Providing time, funding and resources for high quality PD
- Focusing on effective practices
- Rewarding effective implementation
- Measuring strategy use
- Linking strategy use to goals and outcomes
Effective Professional Development to Support Students with Disabilities

• Improve attitudes, knowledge and skills across all levels (system, leader, educator)
• Make PD relevant and linked to goals
• Link EBP and PD to state, system, school and educator goals
• Collect data on effectiveness of PD and EBP and link to goal progress and student data
• Train leaders in implementation practices
Questions?
Next PACE webinar on Special Education

Tuesday, March 10, 1-2pm: Developing Systems to Support Schools to Serve Students with Disabilities.

Register at: edpolicyinca.org/events

Find the recording, summary, and Q&A from the Webinar #1 on Transitions Into and Out of Special Education on the PACE website.