

# Connecting Teacher Needs and Resources for Mathematics for English Language Learners: A Cross Reference of Teacher Needs and Available Professional Development

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# LU Project Goals

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1. Support mathematics instruction in Texas for English Language Learner (ELL) students, specifically students at the secondary level.
2. Identify the instructional, training, and professional development needs of secondary mathematics teachers of ELL students.
  - Training needs may include in-service training, implementation of professional development programs, supportive instructional resources and tools, etc. ...
3. Compare the identified perceived needs with existing PD programs.

# Targeted Audience

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- Secondary mathematics teachers throughout the state of Texas who currently teach or have taught a significant number of ELL students
- Secondary ELL/ESL/ESOL teachers
- Mathematics Curriculum Coordinators
- Others (i.e. elementary and middle school ELL teachers, middle school math teachers, administrators, ...)

# Focus Groups

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- Teacher needs identified from focus group interviews with teachers across state
  - 4 focus groups (Southeast TX, Central TX, West TX, and South TX)
  - Varied number of participants
  - Participants from different schools
  - Teachers selected from survey results and/or researcher/school principal recruitment
  - 2 hr group interview
  - Teachers were paid a stipend and lunch was provided

# Focus Groups

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- Participants were selected based on:
  - expressed interest documented in returned survey
  - recruitment from researcher and/or school principal
- All sessions were video and audio recorded
- 2 researchers were facilitators for the session but offered no opinions or input into discussions
- Each focus group followed same format
  - Intro to project
  - Introduction and brainstorm of 3 discussion questions
  - Discussion of each question in detail, soliciting responses when necessary
  - Group consensus on summarized findings

# Focus Group Discussion Questions

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1. What is good about ELL professional development in Texas?
2. What aspects of ELL professional development in Texas need improving?
3. What do you believe are the greatest professional development needs in Texas for enhancing secondary mathematics instruction for ELL students?

# General Focus Group Findings

- Goal is to map teachers' perceived PD needs to existing PD programs
  
- General focus group findings indicate the following as teachers' perceptions of PD needs to better support mathematics instruction for high school ELL students:
  1. Provide professional development **SPECIFIC** to improving **mathematics** instruction for ELL students
  2. Provide training that separates learning mathematics from learning the language
  3. Provide professional development from experts with experience teaching mathematics to ELL students
  4. Provide training in reading in the content area
  5. Provide training that incorporates country specific math curriculum

# Question 1: Favorable Aspects of Texas ELL PD

Southeast TX	Central TX	West TX	South TX
1. None available	1. None available	1. None available	1. None available
2. Many teachers incorporate general PD into ELL classrooms	2. Multidiscipline training exists	2. Combine general PD training with personal ideas	2. There is general ELL training only for elementary teachers.
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# Question 2: Perceived Improvement Needs

Southeast TX	Central TX	West TX	South TX
1. Training specific to mathematics	1. Training for math teachers to become ELL specialists	1. Training specific to mathematics	1. Training specifically for math teachers
2. There should be multi-district PD training (involving districts with similar demographics)	2. Mandatory yearly training for <b>ALL</b> teachers	2. Mandatory yearly training for <b>ALL</b> teachers	2. Required PD for math teachers outside of the school year
3. Experienced teachers should preside over PD	3. External experts should conduct training	3. Training in using dual language software	3. Stop constant jump from PD program to program
4. Better advertise PD for teachers of ELL students	4. Communication between in school ELL staff and math teachers	-----	-----

# Question 3: Perceived Needs

<b>Southeast TX</b>	<b>Central TX</b>	<b>West TX</b>	<b>South TX</b>
1. Need for training in reading in the content area	1. Training for reading in content area	1. Training specific to mathematics vocabulary	1. More training in technology
2. Standardize PD for math teachers across Texas	2. Need for specific techniques for ELL students at different levels	2. Tool to test mathematical ability of students, with little regard to language	2. Invite math teachers from Mexico to give presentation on differences in curriculums
3. Need bilingual certified math teachers	3. Separate learning the language from learning mathematics	3. Training on mathematics register vs. language register	3. Dual language program – not bilingual program
4. Provide incentives for math Master teachers to teach ELL students	4. Training that incorporates country specific math curriculum	4. Introduce activities and resources	4. Support group

# Existing PD Models Used in Texas

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- Cognitively Guided Instruction
- Connected Mathematics Project
- Family Math
- Everyday Math
- Figure This! Math Challenges for Families
- Investigations
- Mathcounts
- Mathworks
- NCTM Navigations
- Sharon Wells
- SIOP
- Textteams

# Map of Needs to Existing PD Models (Models 1 – 5)

	Cog. G. I.	Con. Math Project	Family Math	Everyday Math
F. Group 1 (SE TX)		☺ (Q3:1)	☺ (Q2:1 & Q3:1)	
F. Group 2 (Central TX)		☺ (Q3:1)	☺ (Q3:1)	
F. Group 3 (West TX)	☺ (Q3:2 & Q3:3)		☺ (Q2:1 & Q3:4)	
F. Group 4 (South TX)		☺ (Q2:3)	☺ (Q2:1)	☺ (Q3:1)

# Map of Needs to Existing PD Models (Models 6 – 10)

	Figure This!	Invest.	Mcounts.	Mworks.	NCTM Nav.
F. Group 1 (SE TX)				☺ (Q2:2 & Q2:3)	
F. Group 2 (Central TX)				☺ (Q2:4)	
F. Group 3 (West TX)		☺ (Q3:4)	☺ (Q3:4)	☺ (Q3:4)	☺ (Q3:4)
F. Group 4 (South TX)	☺ (Q3:1)			☺ (Q2:2 & Q3:4)	☺ (Q3:1)

# Map of Needs to Existing PD Models (Models 11 -14)

	Sharon Wells	SIOP	Textteams
F. Group 1 (SE TX)		☺ (Q2:1)	☺ (Q2:2)
F. Group 2 (Central TX)		☺ (Q2:3)	
F. Group 3 (West TX)	☺ (Q3:4)	☺ (Q2:1, Q3:2, & Q3:4)	☺ (Q3:4)
F. Group 4 (South TX)		☺ (Q2:1)	

# Future Work

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- Work extended to elementary school teachers
- More detailed map of needs to available professional development

# Thank You!

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