

Teachers' Perceived Needs for Professional Development to Support Mathematics Instruction for English Language Learners

Sandra Richardson, Ph.D.

LU MELL Initiative
Lamar University
Beaumont, Texas

richardson@math.lamar.edu

MaryE Wilkinson, Ph.D.

LU MELL Initiative
Lamar University
Beaumont, Texas

marye.wilkinson@lamar.edu

LU Project Goals

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

- 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 mathematics teachers, administrators, ...)

Data Collected

- Survey distributions to secondary mathematics teachers throughout the state
 - 130 survey packets distributed
 - 93 surveys returned

- Focus group interviews with teachers across state
 - 4 focus groups (Southeast TX, Central TX, West TX, and South Texas)
 - 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

- Summer Professional Development Workshop
 - Held on campus of LU in late June
 - Invited teachers from across state to participate in 1 wk workshop

Surveys

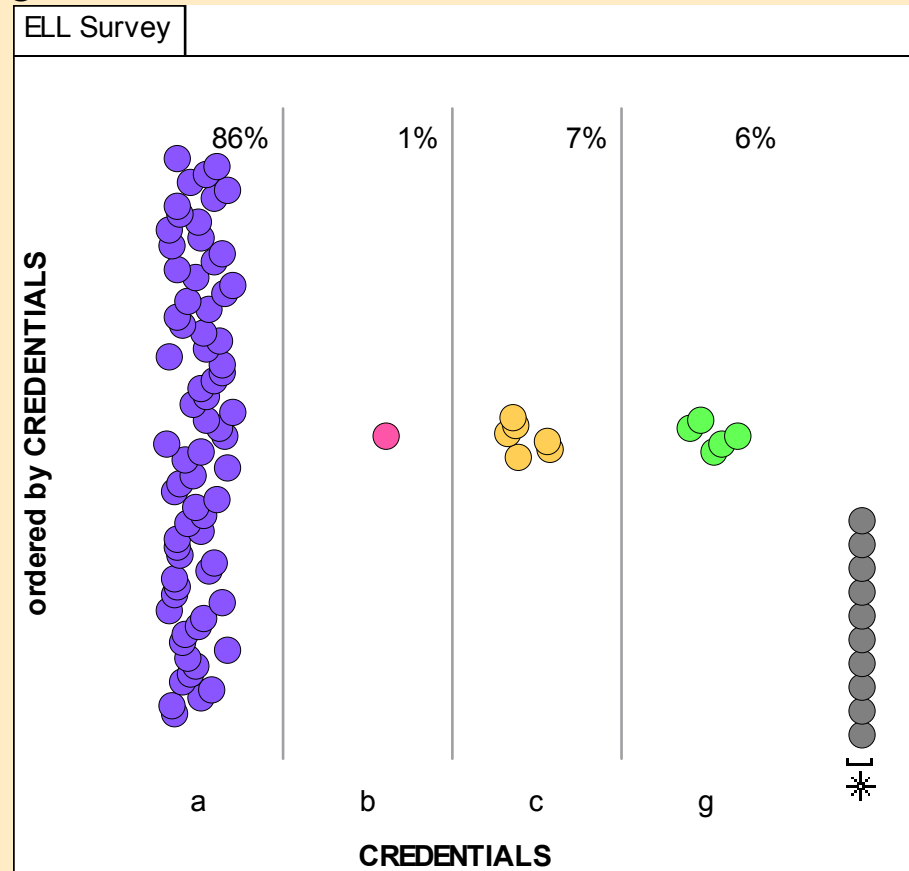
- First step in data collection
- Distributed survey packets to every region
 - Distributed surveys to schools with high ELL populations within each region
 - Requested that principal distribute surveys to 2-3 mathematics teachers
- Total of 16 questions
- Copy of survey

Key Survey Questions

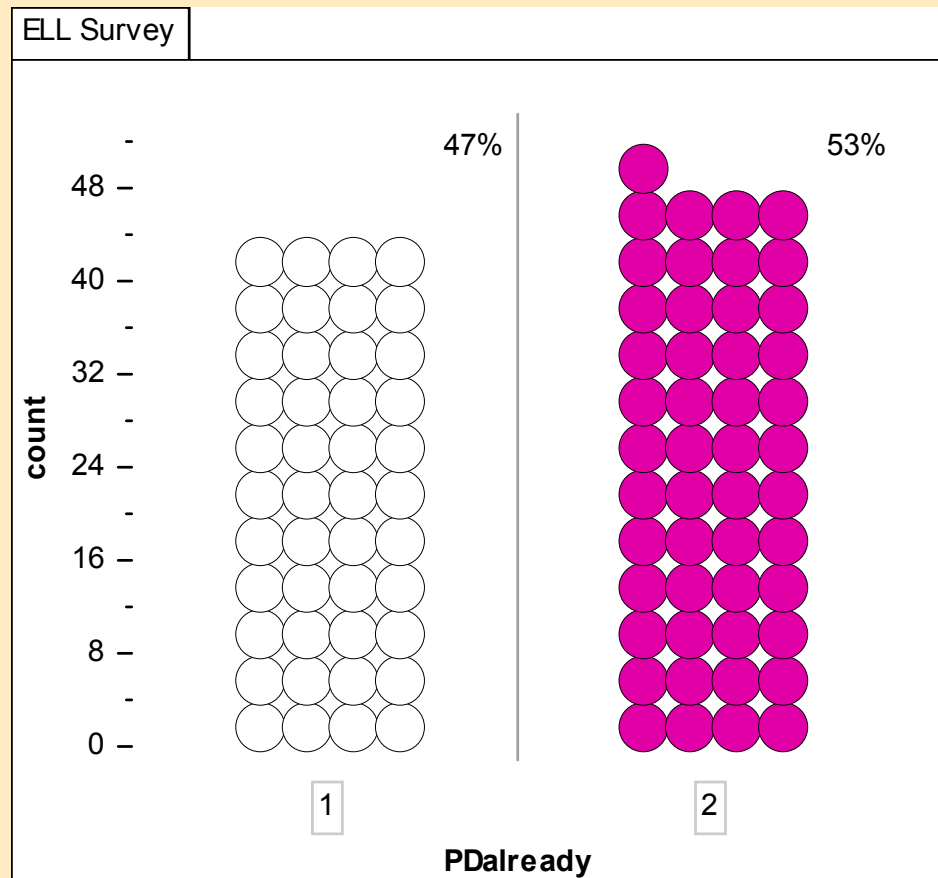
1. What do you see as your school's greatest training need for enhancing mathematics instruction for ELL students? (Q1)
2. Have you received any training or professional development in working with ELL students? (Q5)
3. If yes, how helpful was the training on a scale from 1 = not helpful to 3 = extremely helpful? (Q6)
4. In comparison to the general student population of your school, how well do your ELL students perform in mathematics (1 = not as well to 3 = very well)? (Q9)
5. Would you support extended day opportunities for ELL students so that they can receive additional help with their schoolwork? (Q11)
6. Would you encourage training on designing alternative assessment tasks and a meaningful assessment plan that uses a diversity of assessment measures to assess ELL students? (Q12)
7. Would you support creating a teacher academy to provide rigorous professional development to teachers of ELL students with a goal of introducing best practices into mathematics classrooms?(Q13)
8. If you could change one thing about your school's approach to educating ELL students, what would it be? (Q16)

Survey Findings

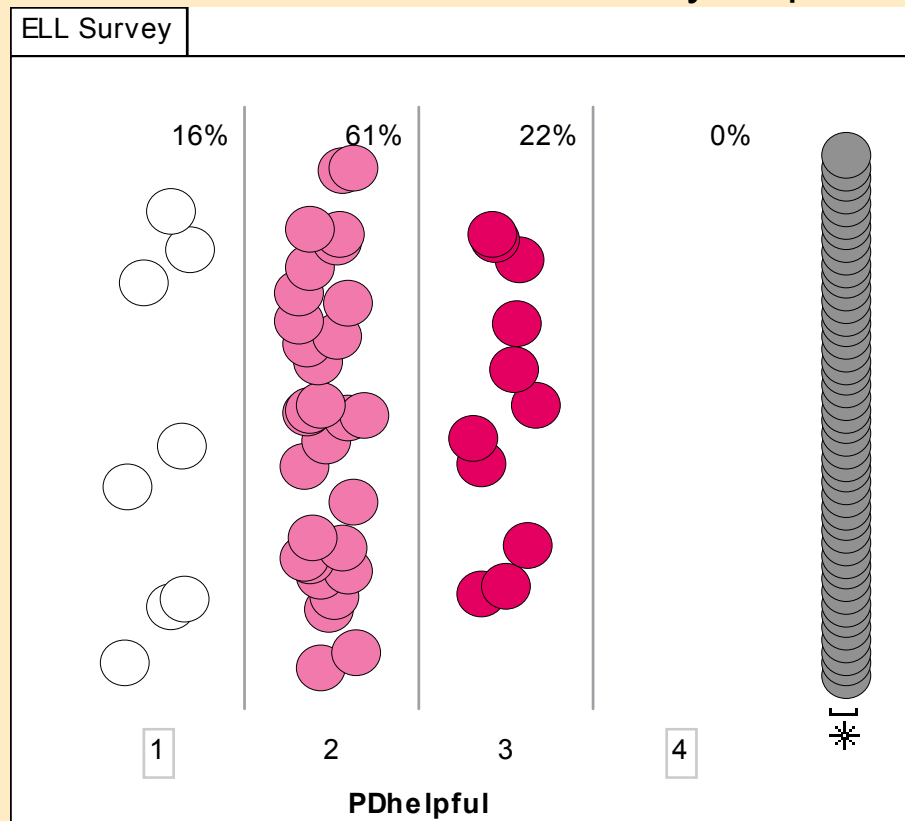
- Q2: 86% of the surveyed teachers had no specialized credentials for instructing ELL students.



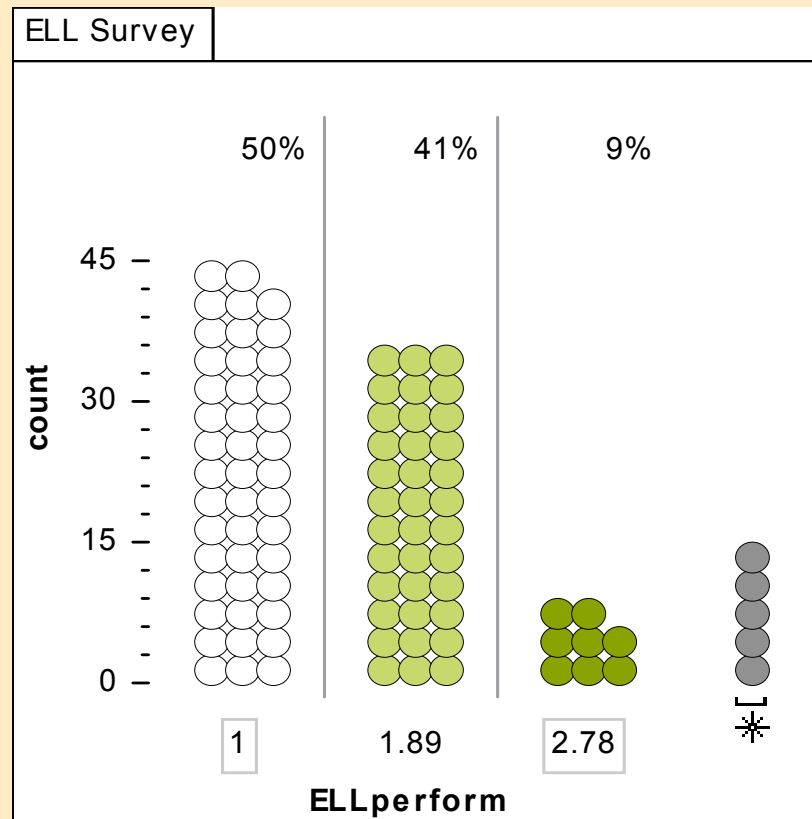
- Q5: 47% of teachers had received no ELL professional development.



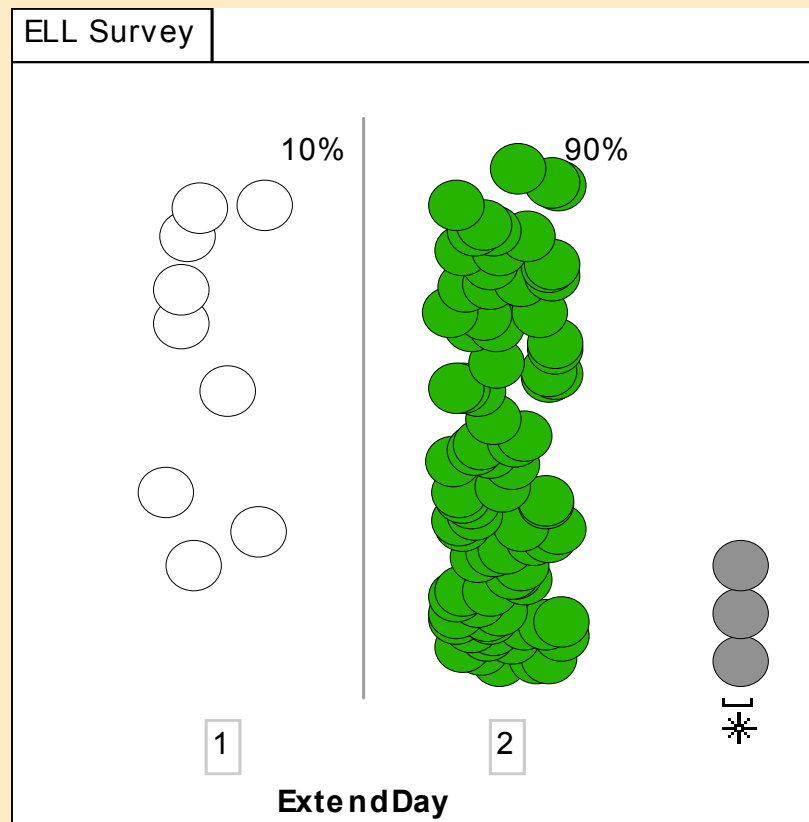
- Q6: Only 16% of teachers who received professional development in the area of ELL found that it was extremely helpful.



- Q9: Of the teachers surveyed, half of their ELL students do not achieve at a comparable level to their non-ELL students.



- Q11: 90% of surveyed teachers would support extended day opportunities for ELL students.



Survey Q1: What is your school's greatest training need?

- Tools and techniques proven to be successful
- Mathematics specific vocabulary
- Making training applicable to mathematics
- Assessment training
- Team teaching opportunities

Survey Q16: What would you change about your school's approach to educating ELL students?

- Educating all teachers (not just ELL teachers)
- Many ESL teachers are just trained and not certified, being trained is not enough
- Provide more mathematics instruction for the ESL teacher
- First, diagnose students' mathematical ability level without language barrier factors
- Expectations of ELL students should not be lowered
- Mainstream ELL students instead of placing them all in the same classroom

Focus Groups

- Participants were selected based on:
 - expressed interest documented in returned survey
 - recruitment from researcher and/or school principal
- All sessions were video and/or 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

Discussion Questions

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?

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 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 mathematics teachers to become ELL specialists	1. Training specific to mathematics	1. Training specifically for mathematics teachers
2. There should be multi-district PD training (involving districts with similar demographics)	2. Mandatory yearly training for ALL teachers	2. Mandatory yearly training for ALL teachers	2. Required PD for mathematics 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 mathematics teachers	-----	-----

Question 3: Perceived Needs

Southeast TX	Central TX	West TX	South TX
1. Need for training in reading in the content area	1. Training for reading in the content area	1. Training specific to mathematics vocabulary	1. More training in technology
2. Standardize PD for mathematics 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 mathematics teachers from Mexico to give presentation on differences in curriculums
3. Need bilingual certified mathematics 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 Master Mathematics Teachers to teach ELL students	4. Training that incorporates country specific mathematics curriculum	4. Introduce activities and resources	4. Support group

General Focus Group Findings

Focus group results 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 professional development that separates learning mathematics from learning the language.
3. Provide professional development from experts with experience teaching mathematics to ELL students.
4. Provide professional development for reading in the content area.
5. Provide professional development that incorporates country specific mathematics curriculum.

Future Work

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