

# Dismantling Educational Injustices: Outcomes of Implementing Statewide High Impact Tutoring





### **Strategies for a Thriving Illinois**



#### Support learning renewal and student supports





### Data Presented Today



- Data presented today is from the 22-23 school year.
- Data from 22-23 is the first full year of operations
- The 4th presentation will talk about the data sources for student outcomes which are from the 22-23 school year.





# Illinois Tutoring Initiative Service Areas







### Implementation to Date

	Spring 2022	Fall 2022	Spring 2023	Fall 2023	Spring 2024
Regions	4	8	8	8	8
District	8	46	57	63	67
Schools	15	91	133	135	143
Tutors	49	438	557	824	920
Students	119	661	1255	2769	3052









### **Four Papers**

Key Components and General Outcomes of Statewide High-Impact Tutoring-Drs. Carrie Anna Courtad, Christy Borders, & Grace Kang

Preparing Tutors to Use High-Impact Tutoring in Fidelity-Drs. Jeongae Kang & Shengtian Wu

High-Impact Tutoring in the Digital Age: Harnessing Technology to Implement Evidence-Based Approaches at Scale- John Failla, CEO of Pearl

Student Outcomes for a Statewide High Impact Tutoring Initiative-Drs. Steven B. Mertens & Christy Borders



# Key Components and General Outcomes of Statewide High-Impact Tutoring

Drs. Carrie Anna Courtad, Christy Borders, and Grace Kang



### High Impact Tutoring: *Key Components*



### What is High-Impact Tutoring?

intensive, relationship-based, individualized instruction



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# **Core Training**



#### What is High-Impact Tutoring?

- Five evidence-based characteristics of High Impact Tutoring
- Six effective techniques of working with students
- Plan for effective tutoring

#### Culturally Relevant Tutoring

- Culturally responsive tutoring
- Assets based perspectives
- Funds of Knowledge

#### Engaging all learners

- Zone for proximal development
- Universal design for learning
- Accessibility

### **Content Training**





Phonemic awareness Phonics Vocabulary Comprehension

Number sense 3<sup>rd</sup>-5<sup>th</sup> Grade 6th through 8th grade levels Algebra Geometry



### **District Prioritization Criteria**

Funding at or below 75% adequacy

At least 40% low income

Disproportionate COVID impact

High percentage of remote versus in-person days

Is not a recipient of a 21st Century Community Learning Centers grant



### Tutor Demographics 22-23 School Year



#### Degree status of tutors

Age of Tutors



### Tutor Demographics 22-23 School Year





**Highest Degree** 

**Reported Race** 













**Special Education Status** 

**English Learning Status** 







# Preparing Tutors to Use High-Impact Tutoring in Fidelity

Drs. Jeongae Kang and Shengtian Wu



# High-Impact Tutoring in the **Digital Age: Harnessing Technology to Implement Evidence-Based Approaches at** Scale

John Failla, CEO of Pearl



John Failla CEO & Founder John@tutorwithpearl.com

#### Purpose

The purpose of the paper is to illustrate how a technology company (Pearl) collaborates with a State Education Agency (SEA) and researchers to develop a scalable platform designed for state-wide, evidence-based High-Impact-Tutoring tutoring aligning with Stanford's National Student Support Accelerator's (NSSA's) Tutor Quality Improvement Standards (TQIS).

#### **Key Factors**

- Introduction to the heightened educational challenges due to the COVID-19 pandemic.
- Overview of technology's role in addressing these challenges through innovative tutoring strategies.
- Definition and significance of evidence-based tutoring in the context of pandemic-induced learning gaps.
- Examination of Pearl as a technological solution developed under the guidance of the National Student Support Accelerator at Stanford University.
- Analysis of how Pearl helps SEAs facilitate the adoption and scaling of high-impact tutoring programs.
- Discussion on the research-backed practices that Pearl integrates into its data collection approach.
- ITI 2023 results as an example of successful implementation of Pearl.
  - Assessment of the impact of Pearl-enabled tutoring programs on student learning outcomes during the pandemic.



#### Setting the Post-COVID Landscape

The COVID-19 pandemic has heightened several educational challenges, including:

- Learning Loss: Many students have experienced significant setbacks in their academic progress due to school closures and the shift to remote learning.
- **Inequity in Access:** The pandemic has exacerbated disparities in access to technology, reliable internet, and supportive learning environments, affecting students from lower-income families disproportionately.
- **Mental Health Strain:** Students and educators have faced increased mental health challenges, including anxiety, depression, and burnout, due to the uncertainties and isolation brought on by the pandemic.
- Adaptation to Remote Learning: The sudden shift to online education highlighted the need for robust digital platforms and training for teachers to effectively deliver content and engage students remotely.
- **Engagement and Motivation:** Keeping students engaged and motivated in a virtual or hybrid learning environment has been a significant challenge for educators.
- Assessment and Feedback: The pandemic has complicated traditional methods of assessment and feedback, leading to difficulties in accurately measuring student learning and progress.
- **Resource Allocation**: Schools and educational institutions have faced challenges in allocating resources effectively to support remote learning and address the needs of all students.
- **Teacher Support and Development:** COVID led to an exodus of teachers from the classroom. Teachers who stayed have required additional support and professional development to navigate new teaching methods and technologies.



#### The Opportunity for Illinois

With unprecedented learning loss, and the education gap widening, Illinois decided to be a trailblazer and develop a new model. Leveraging community members to serve as an army of tutors and support 100 of the highest-need districts in the state.

- **Develop the Illinois Tutoring Initiative:** At the state-level, design the operations and delivery of high-impact tutoring.
- Create buy-in from the community: Recruit decision makers at key levels across multiple statewide organizations.
- Establish district partnerships: Get districts onboard to support ground-level implementation and agree to key data share agreements.
- **Recruit the community:** Recruit thousands of community members from paraprofessionals, to education majors, to undergraduates and general community members to serve as tutors.
- Generate Student Outcomes: Establish the data collection and research strategy to run parallel to the operations of the tutoring program.



#### The need for infrastructure

With ITI designed and the community beginning to buy-in, ITI saw a massive gap in their plans. For a program of this scale, sticky notes and excels sheets aren't enough. They needed purpose-built software.

- **Onboarding and Training:** Must onboard and train admins, tutors, students in best ways to use technology to enable learning and data collection.
- File-sharing and communication: Sharing content and curriculum across thousands of tutors requires purpose-built workflose.
- **Student/Tutor Matching:** Matching thousands of students to thousands of educators with specific criteria around location, grade, subject and timing is an impossible manual task.
- Scheduling & Schedule Management : State-wide implementations consist of scheduling and actively managing tens of thousands of sessions each semester.
- Data collection & reporting: Must collect key data points across demographics, dosage, attendance, assessment and SEL.



#### **Enter Pearl**

Pearl is the nation's leading software provider for state-led tutoring initiatives. The Pearl platform served 70% of ITI's needs but was missing a few crucial tools. Instead of building their own platform, ITI partnered with Pearl to build out key missing functionality in the system.

- Algorithm for Tutor-Student Matching: Developing a sophisticated algorithm to efficiently pair tutors with students based on specific needs and compatibility.
- Data Collection Tools: Implementing specialized tools for gathering detailed data from in-person and online tutoring sessions.
- Integration with School Information Systems: Ensuring seamless integration with school-information-systems for rostering and Single Sign-On (SSO) capabilities.
- Enhanced Data Collection and Reporting: Establishing a higher level of fidelity and structured framework for comprehensive data collection and reporting, to monitor and assess the effectiveness of the tutoring initiatives.



#### **Evidence-based tutor design compliance**

Pearl assists State Education Agencies (SEAs) in adhering to the Tutoring Quality Improvement System (TQIS) standards, as developed by the National Student Support Accelerator. Pearl's platform is designed to support key quality standards outlined in TQIS, which include:

- **Tutor Selection, and training:** Pearl provides tools for systematic selection and training, ensuring tutors possess the necessary skills and mindsets.
- Data Use for Program Effectiveness: Pearl's analytics facilitate understanding and improving overall program effectiveness.
- Formative Assessment and Student Progress Measure: The platform offers capabilities to report formative assessment data, enabling tutors to tailor future sessions and track student progress.
- Integration with School Schedule and Curricular Alignment: Pearl's scheduling solution is highly flexible, allowing for quick-substituting, and impromptu retroactive scheduling.
- **Safety Protocols:** Pearl prioritizes student and data safety, adhering to strict protocols and standards.
- ADA & VPAT Compliance: The Pearl platform is ADA WSAG Level II Compliant & has a 3rd-party generated VPAT.



#### **Tutor data collection**

Pearl's approach to data collection aligns with the National Student Support Accelerator (NSSA) at Stanford University, focusing on comprehensive and nuanced measures of tutoring effectiveness. The key categories recommended by NSSA and adhered to by Pearl include:

- Attendance and Dosage: Tracking the frequency and duration of tutoring sessions to correlate with student progress.
- Social-Emotional Learning (SEL) Data: Monitoring the emotional and social growth of students to ensure a holistic educational approach.
- **Pulse Checks through Surveys:** Gathering regular feedback from students, tutors, and educators to assess the program's immediate impact and areas for improvement.
- **Open Fields for Session Notes:** Providing space for tutors to record detailed observations, suggestions for program administrators, and personal reflections to continuously improve tutoring practices.



### The Pearl Data stack

By combining the following data categories, we are able to build a holistic data stack for any tutoring program.

### **PE**ARL<sub>30</sub>

ТҮРЕ	EXAMPLE
Personal (data about students, tutors, parents)	<ul> <li>Registration Information</li> <li>Demographic information</li> <li>IEPs, absentee record, prior grades</li> </ul>
Platform (data captured by tech)	<ul> <li>Log data (online attendance, duration of tutoring sessions, time on subject)</li> <li>IP Address, Browser, Operating System</li> <li>Buttons clicked, UX behavior</li> </ul>
Reporting (data collected from people)	<ul> <li>Post Session Reports (in-person attendance, duration of tutoring sessions, time on subject, SEL data, tutor notes)</li> <li>Pulse Checks</li> <li>Open Fields / Notes (keywords</li> </ul>
Assessment (tests to evaluate progress)	<ul> <li>Diagnostic Baseline</li> <li>Periodic Progress Monitoring</li> <li>Post Term Evaluation</li> </ul>
Media Data (future work, Secure Al created - PII redacted,Data Transformations)	<ul><li>Speech to Text</li><li>Sentiment Analysis</li><li>Micro-expression</li></ul>

### The Pearl Data stack

By combining our tutor data stack with community data and district date, we are able to provide holistic insights into the academic progress of any student.





#### **Data Collection Process**

# There are numerous ways/formats to get data into the Pearl platform.

- **System Integrations** with key Student Information Systems & School Data Warehouses.
- Manual Data entry via instructors, students, admins in platform and mobile app.

#### Opportunities for expansion:

- Nudging
- Gamification
- Multi-signal
- Natural Language Prompts

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#### Results

The implementation of Pearl platform significantly contributes to the success of the Illinois Tutoring Initiative (ITI), demonstrating its efficacy in supporting scalable, high-impact tutoring programs. The results from the Academic Year 2022-23 reveal how Pearl enabled these outcomes:

- Enhanced Student Growth: Utilizing Pearl's data-driven collection approach ITI was able to report tutored students exhibited consistent growth over time in both reading and math, outperforming non-tutored students.
- **High Levels of Student Engagement:** Feedback collected through Pearl's platform showed that approximately 90% of students consistently reported high confidence, enjoyment, and learning from the tutoring sessions. This indicates a positive reception and engagement with the tutoring provided.
- **Tutor Self-Efficacy and Training:** Pearl's on-boarding training modules (built by ITI) and feedback mechanisms contributed to a notable increase in tutor self-efficacy. Tutors felt more confident and effective in their roles, which directly translated to better tutoring outcomes.
- **Data-Driven Decision Making:** Pearl's robust data collection and analysis capabilities allowed for real-time tracking of student progress and tutor performance. This enabled ITI to make informed decisions and adjustments to the tutoring programs, ensuring alignment with evidence-based practices.
- Scalable Impact: Pearl's platform supported the expansive reach of the ITI, facilitating over 57,700 tutoring sessions across multiple districts and schools. This scale demonstrates Pearl's capacity to manage and enhance large-scale tutoring initiatives effectively.





# **Student Outcomes for a Statewide High-Impact Tutoring Initiative**

Steven B. Mertens, Ph.D. Christy Borders, Ed.D. Illinois State University

## 2022-23 ITI Study Sample



- Data collected from high-needs schools in all 6 regions across Illinois (47 districts)
- ITI study sample comprised of tutoring data collected during: Fall 2022, Winter 2022, & Spring 2023
- Analyses include 3,124 individual students
  - 44% (n=1,379) tutored
  - 56% (n=1,745) not tutored

## **Assessment (Achievement) Data**



Two sources of student assessment data:

- 1) Illinois Assessment of Readiness (state-level)
  - Available for reading and math
  - Two data points: 2022 & 2023

### 2) 5 different district-level assessments:

- Available for reading and math
- Aimsweb, Fastbridge, I-Ready, NWEA, & Star
- Three data points: Fall 2022, Winter 2022, & Spring 2023

## **Assessment (Achievement) Data**



### **Illinois Assessment of Readiness (state-level)**

- Compared reading and math for tutored and non-tutored students
- 2 data points: 2022 & 2023
- Conducted independent samples *t*-tests
- Also conducted factorial analysis of variance (FANOVA) when including SES, SPED status, ELL status, race/ethnicity, & region

## IAR Data: t-test Results



#### *t*-tests: Reading IAR

- 2022: tutored students scored statistically higher
  - t<sub>546</sub> = 2.49, p=.006 (Cohen's d=.24 = medium effect size)
- 2023: tutored students scored statistically higher
  - t<sub>2,528</sub> = 2.82, p=.002 (Cohen's d=.11 = small effect size)

#### t-tests: Math IAR

• 2022: tutored students scored statistically higher

t<sub>546</sub> = 5.86, p<.001 (Cohen's d=.57 = large effect size)</p>

• 2023: tutored students scored statistically higher

•  $t_{2,525} = 5.92$ , p<.001 (Cohen's d=.23 = medium effect size)

## IAR Data: FANOVA Results

#### FANOVA: Reading IAR by other variables

- Read by Tutored by SES status
  - Significant effect for SES status
- Read by Tutored by SPED status
  - Significant effect for SPED status
- Read by Tutored by ELL status
  - Significant effect for ELL status
- Read by Tutored by race/ethnicity
  - Significant effect for race/ethnicity
- Read by Tutored by region
  - <sup>40</sup> Significant effect for region & interaction between tutored & region



## IAR Data: Results



#### FANOVA: Math IAR by other variables

- Math by Tutored by SES status
  - Significant effect for SES status
- Math by Tutored by SPED status
  - Significant effect for SPED & interaction between tutored & SPED
- Math by Tutored by ELL status
  - Significant effect for ELL & interaction between tutored & ELL
- Math by Tutored by race/ethnicity
  - Significant effect for race/ethnicity
- Math by Tutored by region
  - <sup>41</sup> Significant effect for region & interaction between tutored & region

## **Assessment (Achievement) Data**



**District-Level Assessments (5 types)** 

- Available for reading and math
- 5 district assessments: Aimsweb, Fastbridge, I-Ready, NWEA, & Star
- 3 data points: Fall 2022, Winter 2022, & Spring 2023
- Conducted repeated measures ANOVA



## **District-Level Assessment Data**

	Aimsweb	Fastbridge	I-Ready	NWEA	Star
# Districts	4	2	6	25	10
# Students	375	115	406	1,809	419

## District Assessment – Aimsweb Results



Aimsweb	Tutored	Control (not tutored)
Reading	134	180
Math	134	185





## District Assessment – Fastbridge Results



Fastbridge	Tutored	Control (not tutored)
Reading	92	13
Math	90	13





## **District Assessment – I-Ready Results**



I-Ready	Tutored	Control (not tutored)
Reading	142	93
Math	167	93





## **District Assessment – NWEA Results**



NWEA	Tutored	Control (not tutored)
Reading	450	702
Math	458	699





## **District Assessment – Star Results**



Star	Tutored	Control (not tutored)
Reading	169	150
Math	169	157





## **Student Outcomes: Motivation to Read**



Survey Instructions: Read each item and rate how certain you are that you can do the things described below.	Start of Spring 2023 Semester (N=1,116)	End of Spring 2023 Semester (N=1,307)
Read out loud in front of the class	4.68	4.90
Continue reading even when I find it difficult	5.05	5.27
Work out the sounds in words I have not seen before	5.20	5.32
Sound out a word that I find hard to read	5.18	5.33
Read on my own without an adult's help	5.49	5.66
Read things that are harder than the books I normally read at school	4.80	5.06
Know what I can do to improve my reading	5.17	5.38
Continue reading even when I find the subject boring	4.67	4.68
Read out loud quickly and still get words right	4.38	4.59
Make out words easily when I read	5.00	5.15
Improve my reading if I really want to	5.39	5.54
Continue reading even when I do not like the subject	4.74	4.91
Read as well as my friends	4.79	5.06
Continue reading even when I get frustrated	4.60	4.73
Practice reading in my spare time even when I don't have to	4.36	4.49
Read without making lots of mistakes	4.55	4.75
Read difficult books	4.55	4.85
Read a book I have not read before	5.51	5.62
Work out the sounds in words I have not seen before	5.28	5.40

## **Tutor Outcomes: Self-Efficacy**



Survey Instructions: Please indicate your opinion about each of the statements below.	Start of Spring 2023 Semester (N=434)	End of Spring 2023 Semester (N=515)
How much can you do to get through to the most difficult students?	4.01	4.06
How much can you do to help your students think critically?	4.08	4.18
How much can you do to motivate students who show low interest in schoolwork?	3.99	4.06
How well can you get students to believe they can do well in schoolwork?	4.24	4.29
How well can you respond to difficult questions for your students?	4.25	4.37
How much can you do to help your students value learning?	4.14	4.17
How much can you gauge student comprehension of what you have taught?	4.31	4.40
To what extent can you craft good questions for your students?	4.28	4.36
How much can you do to foster student creativity?	4.10	4.19
How much can you do to improve the understanding of a student who is failing?	4.00	4.09
How much can you do to adjust your lessons to the proper level for individual students?	4.37	4.47
How much can you use a variety of informal assessment strategies?	4.22	4.28
To what extent can you provide an alternative explanation or an example when your students are confused?	4.41	4.45
How much can you assist families in helping their children to do well in school?	3.52	3.63
How well can you implement alternative strategies in your classroom?	4.16	4.26
How well can you provide appropriate challenges for very capable students?	4.23	4.41

## Summary



- For the state-level IAR assessments, students participating in Illinois Tutoring Initiative outscored non-tutored students in both reading and math.
  - Special education students and English language learners demonstrate greater growth on the IAR math assessment.
- Tutored students outperformed non-tutored students on some district assessments (Aimsweb, Fastbridge, & NWEA).
- Need additional years of data to document systemic growth in student achievement.