A First Look at Instructional Look Fors at LUSD

Reliability and Validity of Instructional Look For Educator Actions

Prepared for: Lindsay Unified School District Teacher and School Leader Initiative (TSL)

January 2020

Prepared by:
Dr. Sarojani S. Mohammed, Dr. Beth Rabbitt, and
The Learning Accelerator team with support from LearnPlatform:
Dr. Daniel Stanhope and Dr. Mary Styers and Lindsay Unified School District:
Amalia Lopez and Dr. Abinwi Nchise

Table of Contents

List of Tables

List of Figures

Executive Summary

In 2019, Lindsay Unified School District (LUSD) established a partnership with The Learning Accelerator (TLA) and software vendor Yet Analytics to examine the relationships between a variety of learning facilitator (LUSD's preferred term for educators) and leader professional learning offerings and learner outcomes. This work is funded by a federal Teacher and School Leader (TSL) Grant.

This interim research brief examines the keystone of LUSD's Adult Learning Curriculum, known as Instructional Look Fors. These Instructional Look Fors are a series of learner (LUSD's preferred term for students) behaviors, organized into six principles, each aligned with several educator actions (sample instructional strategies that facilitate or demonstrate the Instructional Look For). LUSD hypothesizes that these behaviors and actions directly link adult competencies with learner outcomes, and therefore LUSD has aligned learning objectives for each of its professional learning opportunities with these Instructional Look Fors. Observation protocols were developed to assess each professional learning opportunity's learning outcomes. These protocols were aligned to targeted Instructional Look Fors and were used as part of the certification process for each professional learning opportunity.

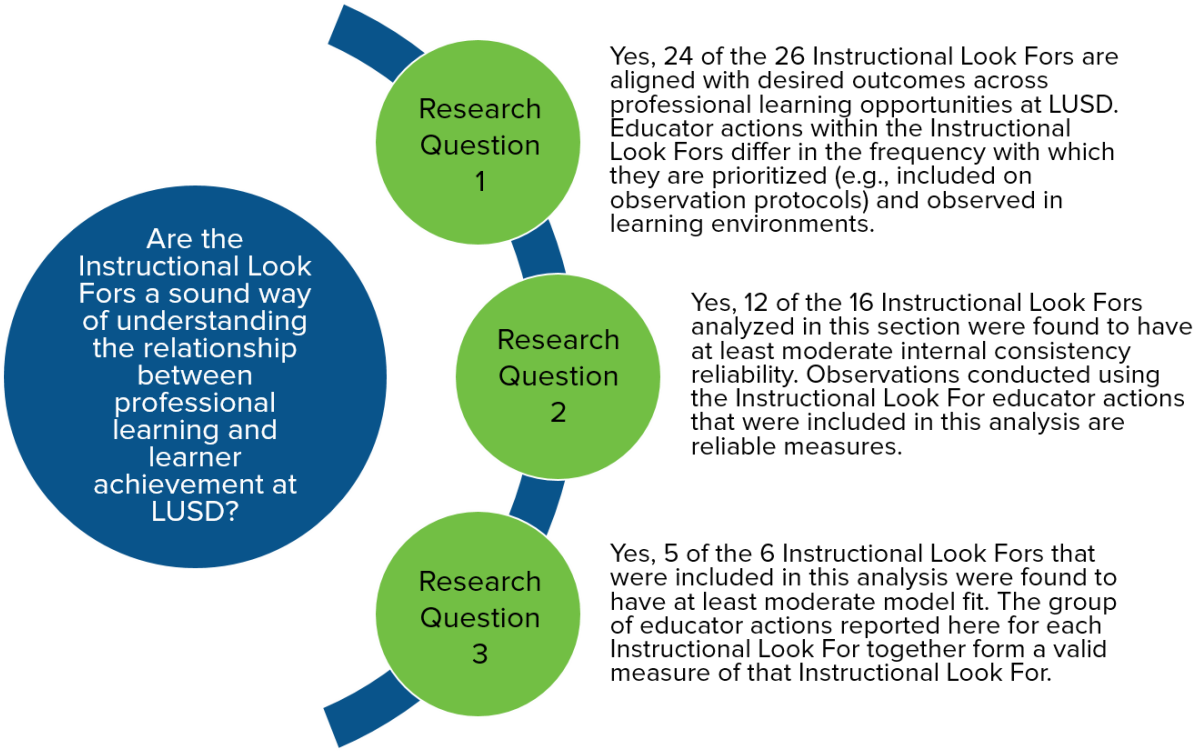
The overarching goal of this brief is to help LUSD begin to answer the following question based on the available data: **are the Instructional Look Fors a sound way of understanding the relationship between professional learning and learner achievement at LUSD?** To begin to answer this question we used all of the available data from the observations conducted in Grant Year 1 (2017 - 2018) and Grant Year 2 (2018 - 2019) school years to answer three research questions:

1. How have the Instructional Look Fors been operationalized at LUSD? (Which Instructional Look Fors were associated with different professional learning opportunities, and which educator actions were used to measure which Instructional Look Fors?)
2. What is the internal consistency reliability of the Instructional Look Fors? (How consistently do the groups of educator actions used to measure each Instructional Look For measure a single construct?)
3. What is the construct validity of the Instructional Look Fors? (How well do the educator actions used to measure each Instructional Look For align with each other and discriminate between Instructional Look Fors?)

The goal of this report is twofold. Externally, LUSD sees the Instructional Look Fors as an open, valuable resource for every school system that is moving toward learner-centered models as it provides a lens for considering educator development and efficacy through *learner* experiences, actions, and behaviors. Internally, LUSD wants to provide leaders with initial data to guide iteration and improvement on the Adult Learning Curriculum as they look ahead to future work building and measuring learning facilitator capacity and growth. Overall, the data indicate that the majority of Instructional Look Fors align to the offered professional learning opportunities and

have moderate reliability and validity. While additional data will need to be collected, and LUSD leadership should consider some changes to improve measures, this report forms the basis for all future studies of professional learning at LUSD, providing rigorous examination, and ultimately validation, of the observation protocols that will continue to be used as a measure of behavior.

Overall findings from the three research questions covered in this report



Key Finding #1: In practice, the Instructional Look Fors appear to be aligned, measurable indicators of desired outcomes for professional learning at LUSD.

The first research question seeks to explain how the Instructional Look Fors are used as measures at LUSD. It includes questions about how often particular educator actions are included across observation protocols, and which Instructional Look Fors and principles are measured and observed most and least frequently.

In the first two grant years, while LUSD leaders decided to put intentional focus on some Instructional Look Fors (based on instructional priorities and for the purpose of rolling out training in manageable ways), professional learning opportunities were offered across nearly all Instructional Look Fors. However, distribution of Instructional Look Fors across opportunities and

protocols was not even. Further, there were some educator actions within each Instructional Look For that were included more often on protocols than others, potentially driven by operationalization factors such as, but not limited to, prioritization by local actors (e.g., leaders, professional developers) as well as the degree of observability of the action (e.g., ease of evidence collection, extent to which action takes place during observation).

- Overall, **24 of the total 26 Instructional Look Fors were included on at least one observation protocol**.
- Across all observation protocols, the principles of **Customization and Purposefulness appeared most frequently** on protocols, and Relevance and Collaboration least frequently.
- **Student Driven** within the **Customization** principle was the Instructional Look For **most commonly included,** appearing on 16 protocols.

Heatmap showing the rates at which Instructional Look Fors were aligned with professional learning opportunities through observation protocols

Instructional Look Fors by Principle	Number of Educator Actions		Number of Protocols each Educator Action was Included on															
	Total	Included Across all Protocols																
Rigor			1	2	3	4	5	6	7	8	9	10						
1b: Cognitive Lift	10	9	4	2	3	5	0	4	6	6	5	0						
2b: Higher-Order Thinking	8	8	2	2	5	1	1	2	3	9								
3b: Essential Knowledge	10	6	3	3	2	5	6	2	0	0	0	0						
4b: Social Emotional Habits	4	0	0	0	0	0												
Customization			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
1b: Appropriate Challenge	15	8	12	6	0	6	1	5	9	8	6	0	0	0	0	0	0	
2b: Student Driven	7*	7	8	6	4	6	11	2	0									
3b: Additional Supports for Students with IEPs or Defined Language Needs (e.g., ELs)	8	6	1	1	1	1	1	1	0	0								
4b: Demonstrations of Learning	7	4	5	7	3	9	0	0	0									
Purposefulness			1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1b: Goal Orientation	8	4	6	0	3	0	5	0	0	4								

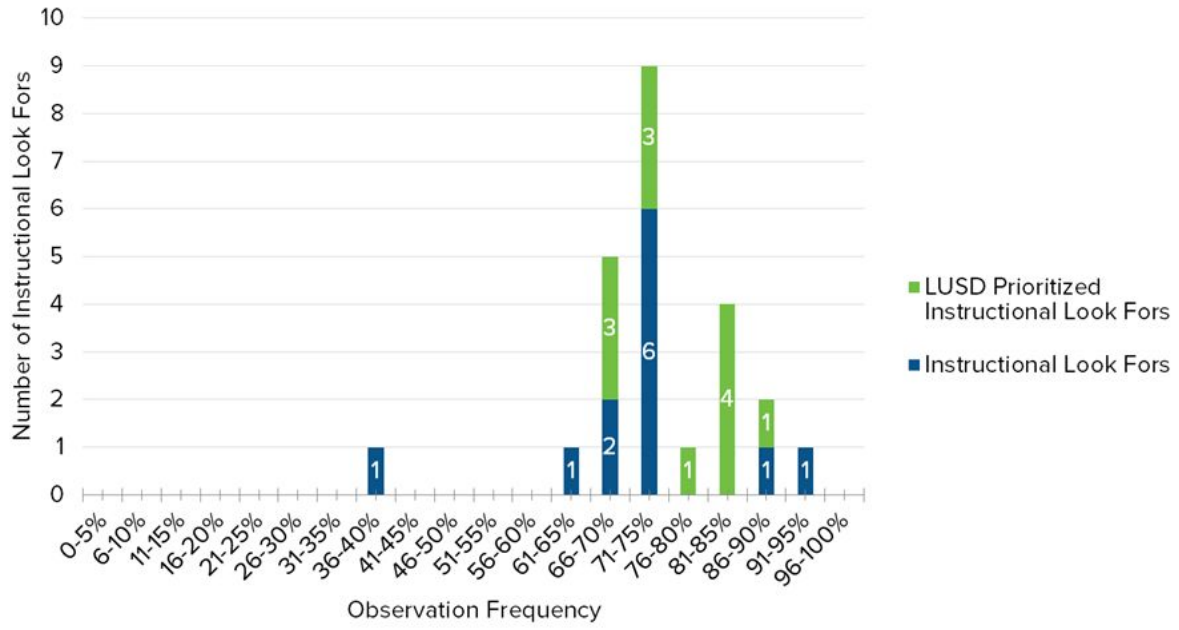
2b: Awareness of Progress	7*	5	3	0	0	3	3	5	1													
3b: Growth Mindset	5	3	3	2	0	3	0															
4b: Academic Urgency	17	9	0	1	1	1	1	1	1	1	1	0	0	1	0	0	0	0	0			
Relevance			1	2	3	4	5	6														
1b: Personal Relevance	6	4	5	3	0	1	1	0														
2b: Academic Relatedness	4	3	2	3	3	0																
3b: Real-World Authenticity	4	4	2	6	3	1																
4b: Cultural Relevance	6	2	0	1	1	0	0	0														
Collaboration			1	2	3	4	5	6	7													
1b: Positive Interdependence	4	4	3	2	4	4																
2b: Individual Accountability	4	3	8	6	2	0																
3b: Interpersonal Skills	7	6	3	2	1	1	1	2	0													
4b: Promotive Interactions	4	4	6	1	1	1																
5b: Group Processing	5	0	0	0	0	0	0															
Community			1	2	3	4	5	6	7	8	9											
1b: Belonging	8	4	5	8	0	1	4	0	0	0												
2b: Joy	7	4	0	1	1	0	0	1	1													
3b: Equitable Engagement	6	6	7	3	5	2	3	4														
4b: Connectedness	9	5	5	0	1	0	1	0	1	1	0											
5b: Upholding Norms	8	3	6	0	0	1	0	1	0	0												

Note: **Green, bolded Instructional Look Fors** were intentionally prioritized by LUSD for focused leadership and roll out.

*Some observation protocols each included an Instructional Look For educator action that was not included in the final published (October 2018) version of the Instructional Look Fors. These two educator actions were retained and numbered sequentially in the data set.

As would be expected, some (13) of the 26 Instructional Look Fors were particularly well-aligned to current district goals and initiatives, as well as to LUSD's Performance Based System and Strategic Design. These 13 were therefore considered top priority and key to impact by district leaders, and were intentionally prioritized for focused leadership training and roll-out during implementation of the TSL grant**.** For 12 of the 13 Instructional Look Fors that were **intentionally prioritized by LUSD,** the frequency of observation ranged from **65.1% (Customization: Demonstrations of Learning) to 89.7% (Rigor: Essential Knowledge)**. This frequency of observation is in the higher ranges of observation frequency for all Instructional Look Fors.

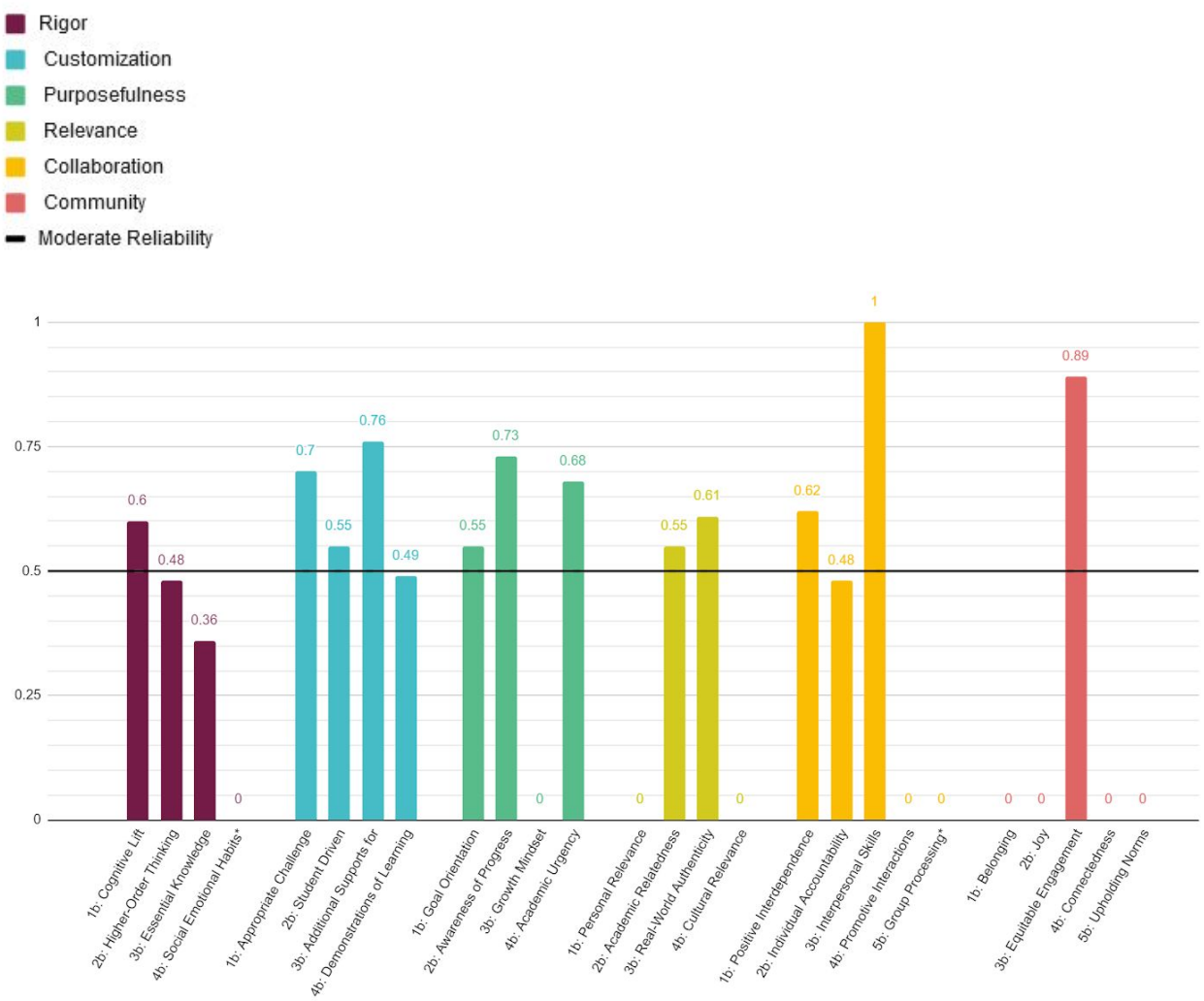
Frequency with which prioritized and other included Instructional Look Fors were observed in learning environments



Key Finding #2: Instructional Look For educator actions appear to be reliable measures of their intended Instructional Look Fors.

This second research question turns to the reliability of the Instructional Look Fors and their educator actions as a measure. In other words, how consistently do educator actions group together and consistently measure one construct (in theory, the single Instructional Look For they exemplify)? Given the early stage of implementation and data collection, it is not possible to draw conclusions on all of the Instructional Look Fors. However, analysis shows that of the 16 Instructional Look Fors with sufficient data, **educator actions used on observation protocols are reliable indicators of the 12 Instructional Look Fors below**, indicating they are reliable measures. The data suggest that LUSD should undertake modifications (in the case of three of the remaining four, the removal of one educator action) to improve reliability.

Internal consistency reliability for each Instructional Look For by principle



Key Finding #3: The Instructional Look For constructs are valid, given sufficient data.

This third research question investigates the extent to which each educator action contributes meaningful information to measuring a single Instructional Look For, and how well they discriminate between Instructional Look Fors. **Five of the six** Instructional Look Fors for which the model converged showed **moderate to good fit**:

- Customization: Appropriate Challenge
    - Additional Supports for Students with IEPs or Defined Language Needs (e.g., ELs)
- Purposefulness: Goal Orientation
    - Awareness of Progress
    - Academic Urgency

In addition, all of the factor loadings across all of the valid Instructional Look Fors show that **every educator action used to indicate these five validly measured Instructional Look Fors contribute substantial information** to measuring the Instructional Look For.

The Take-Away

As LUSD continues to rigorously study the efficacy of its professional learning opportunities provided through the TSL grant, its aim is to open the "black box" that often lies between adult and student learning. While this report is just a first step in understanding the role of the Instructional Look Fors and behavior within a learning environment, these preliminary results are encouraging. **Overall, the Instructional Look Fors are a measurable, reliable, and valid way for LUSD to understand the behaviors that are happening in learning environments and the relationships between professional learning, those behaviors, and learner outcomes.**

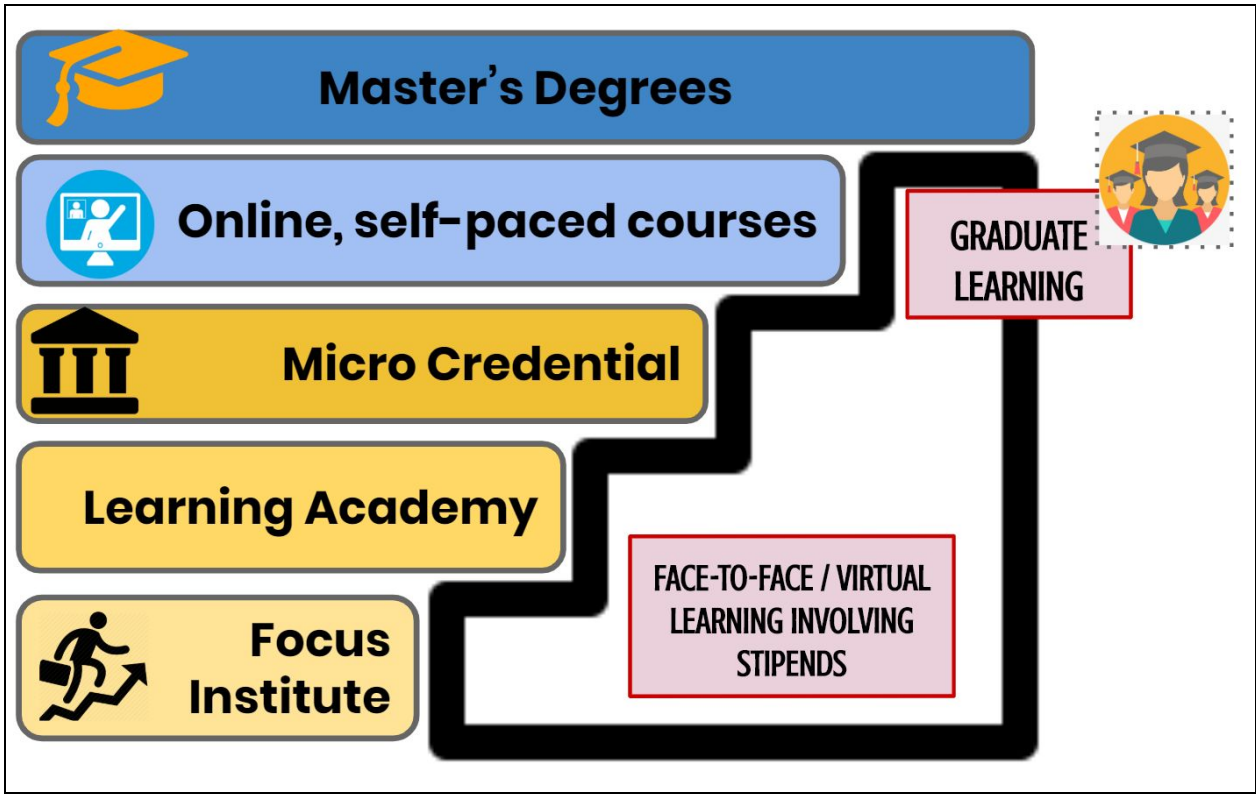
With a few tweaks, coupled with streamlining when and how Instructional Look For educator actions are observed in learning environments, LUSD has the basis for a rigorous and sound measure to be used in studies of its TSL grant. LUSD's aim is to design and conduct studies that fall within Tier 3 (Promising, p.9) levels of evidence generation as defined by the *Every Student Succeeds Act*[1], and the district's ongoing research work to inform and improve the Instructional Look Fors as a measure for those studies ultimately places LUSD on the right path to achieving that aim.

[1] US Department of Education (2016). Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments. (p. 9). Author: Washington, D. C. https://www2.ed.gov/policy/elsec/leg/essa/guidanceuseseinvestment.pdff

Introduction

Driven by Lindsay Unified School District's (LUSD) TSL Empower Lindsay Grant, a federal Teacher and School Leader (TSL) Grant, learning facilitators are provided with a menu of professional learning opportunities. These opportunities are designed to develop the learning facilitators' and school leaders' capacity to bring to life the district's Strategic Design and the Ideal Learning Experience for each learner in LUSD, a commitment that learners have the very best learning experience every day. Professional learning opportunities are scaled to support various levels of development and personalized paths for each learning facilitator's professional growth. They range from supporting multi-year master's degree programs to providing daylong focus institutes on a specific instructional or leadership topic. *Note: Expanded URL hyperlinks are provided in Appendix B for those reading this document in printed form.*

Figure 1: Types of professional learning offered by LUSD through the TSL Grant



All professional learning opportunities focus on topics directly related to LUSD's Adult Learning Curriculum, Performance Based System, and district academic initiatives. Many are constructed and modeled after the LUSD vision of personalization, such as allowing learner voice and choice, or customized skill development. All TSL professional learning opportunities include a performance-based compensation strategy, such as a financial incentive or increased pay scale credits, and all are voluntary.

NOTE!	We use the following LUSD language throughout this report: ● Learner = student ● Learning facilitator = teacher ● Learning environment = classroom ● Learning community = school

LUSD's Adult Learning Curriculum Instructional Look Fors

In 2018, a collaborative project among Transcend Education, Summit Public Schools, Center for Public Research and Leadership at Columbia University, and LUSD developed a series of learner actions and experiences that, according to the existing literature, exemplified approaches to instruction that centered the learner in the education process and contributed to better learning. The approaches included aspects of what are now commonly referred to as performance-, competency- or mastery-based, personalized, and sometimes blended, learning.

The 26 learner actions and experiences (called Instructional Look Fors), which emerged from this research process, were categorized into six domains or principles (Figure 2). Within each Instructional Look For, the team also articulated a series of sample educator actions that they hypothesized facilitated or produced the desired learner experiences or behaviors within a learning environment (Figure 3).

All six principles, 26 Instructional Look Fors, and associated 186 educator actions are outlined in *Instructional Look Fors: Resources to enable personalized learning* published in October 2018 by LUSD, Summit Public Schools, and Transcend Education.

Figure 2: The six Adult Learning Curriculum principles

Rigor

Students stretch themselves intellectually and personally by engaging with skills, habits, and content in challenging, developmentally appropriate ways.

Customization

Students engage in experiences tailored to their learning needs, preferences for how to learn, and specific developmental levels.

Purposefulness

Students work with effort and energy to accomplish goals that connect to a meaningful purpose, and they are aware of their progress toward achieving these goals at all times.

Relevance

Students recognize the significance that learning activities and objectives have to their interests and goals, prior knowledge, and real world, culturally relevant contexts.

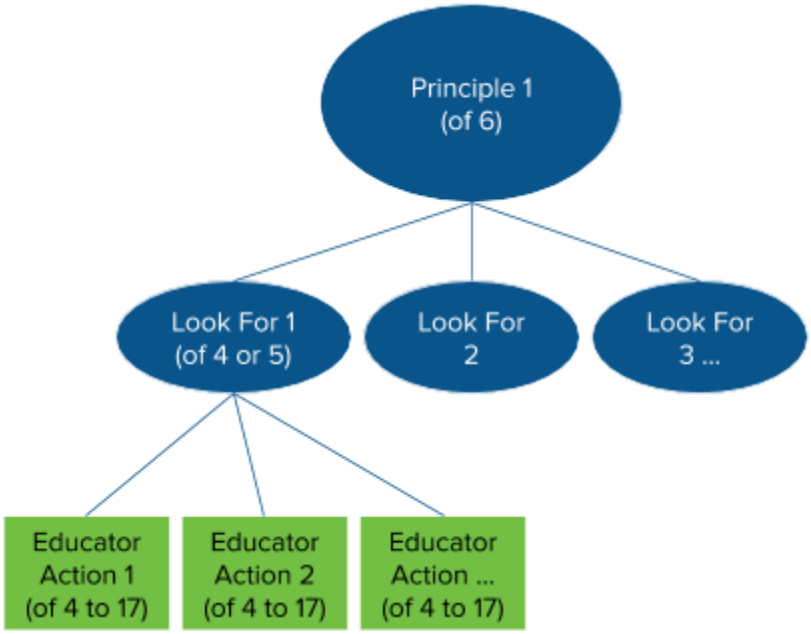
Collaboration

Students work together to create a joint product, cooperatively solve a problem, or co-construct their understanding of a top.

Community

Students are deeply known as individuals and are part of a school that is positive, secure, and open to all backgrounds and perspectives.

Figure 3: Overarching structure of the Instructional Look Fors



Research Questions

The Instructional Look Fors are a cornerstone of LUSD's entire approach to professional learning, both for adults and learners, and are considered the connective tissue between professional learning and learner outcomes. **How LUSD measures the Instructional Look Fors, therefore, is paramount in its ability to understand any connections between its Adult Learning Curriculum and learner's experiences and achievement.**

The research questions we focus on in this brief are intended to illuminate how and how well the Instructional Look Fors have been measured in Grant Years 1 and 2, so that their measurement can be improved if necessary, and confidently included in future analyses.

- The first research question seeks to explain **how the Instructional Look Fors are used and measured** at LUSD. It includes questions about how often particular educator actions are included across observation protocols, and which Instructional Look Fors and principles are measured and observed most and least frequently.
- The second research question turns to the reliability of the Instructional Look Fors and their educator actions as a measure. In other words, **how consistently do educator actions group together and consistently measure one construct** (in theory, the single Instructional Look For they exemplify)?
- The third research question broadens on the second, and investigates the **extent to which the educator actions align within an Instructional Look For, and how well do they discriminate between Instructional Look Fors**?

Observation Protocol Data

LUSD hypothesizes that these learner behaviors and educator actions directly link adult (instructional) competencies with learner outcomes, and therefore has included the Instructional Look Fors as a critical part of its Adult Learning Curriculum. All professional learning opportunities at LUSD, including those that are a part of its TSL grant, are based on adult learning objectives aligned with and geared towards increasing the occurrence of these Instructional Look Fors within LUSD learning environments.

Each professional learning opportunity offered through LUSD's TSL grant gives learning facilitators tiered options for participation. For Learning Academies and Micro-Credentials, learning facilitators can "attend," (that is, attend some but not all in-person training days), "complete" (attend all in-person training days), or "certify" in a professional learning opportunity. Certification requires attending all in-person training days, participating in any ongoing coaching, submitting a portfolio, and satisfactorily demonstrating specific instructional outcomes and Instructional Look Fors during an observation conducted by the trainer and/or coach for that professional learning opportunity.

Learning facilitators individually decide whether or not to seek certification within a professional learning opportunity, and the observation results in one of three recommendations:

- Recommended for certification with no reservations.
- Recommended for certification with reservations (only available in the Guided Reading professional learning opportunities).
- Not recommended for certification.

Learning facilitators can request a second observation if the first resulted in them not being recommended for certification. As part of the structure of the performance-based compensation of the TSL grant, learning facilitators can seek certification in as many professional learning opportunities as they met the certification requirements for.

The observations that form the basis for certification in a professional learning opportunity utilize an observation protocol that is developed by the instructor (sourced within district or as an external consultant) of the opportunity. For each professional learning opportunity, instructors identify up to four learning outcomes for the professional learning. These outcomes are aligned with LUSD's Adult Learning Curriculum, and for each outcome, the instructor selects five to seven Instructional Look Fors as indicators of the outcome's presence within a learning environment.

Figure 4: The process of creating and using observation protocols

In Grant Years 1 and 2, observations focused on learning facilitator (as opposed to learner) behaviors, so Instructional Look For educator actions were then included on the protocol as observable behaviors that demonstrate each of the Instructional Look Fors, and ultimately the outcome of interest. Observers (trainers or coaches) marked each educator action as "observed" when they saw it occur during an observation, and could use those data as evidence to determine if a learning facilitator had satisfactorily demonstrated the outcome in the learning environment.

Figure 5: An example outcome from the observation protocol used in the Guided Reading professional learning opportunity

OUTCOME 1	LF has created a learning environment conducive to Balanced Literacy anchored by the Guided Reading Lesson.	Observed
CUSTOMIZATION	***2b-5:*** *Establishing routines, procedures, and resources (such as task cards) so that students can drive their learning, know what to do when they need feedback, can assess when to complete a task or engage in collaborative support*	❑
CUSTOMIZATION	***2b-1:*** *Designed activities and resources so students can move fluidly between tasks without teacher direction or support, including extension activities*	❑
COMMUNITY	***1b-5:*** *Facilitating predictable routines and traditions that create a familiar and consistent learning environment.*	❑
COMMUNITY	***5b-1:*** *Maintaining a physical space that has a clean and orderly arrangement and helpful visual anchors that communicate community values, vision, and norms*	❑
NOTES		

Given that each instructor developed their own protocol for each professional learning opportunity, and observations were conducted by different individuals, some observation protocol data were excluded from this study. We excluded protocols for which:

- The observation protocol included actions that were aligned with, but not the same as, Instructional Look For educator actions.
- Individual Instructional Look For educator actions were included in the protocol, but not individually marked as "observed" — instead, the observer gave a global determination of minimally, partially, or fully observed for each outcome.

In all, we had data for observations conducted for seven professional learning opportunities in Grant Year 1, and an additional 14 professional learning opportunities in Grant Year 2. Five of

these professional learning opportunities in Grant Year 2 were site-based (offered to all learning facilitators within a learning community and not across the district). **This represented a total of 19 unique observation protocols, measuring 24 Instructional Look Fors made up of 162 educator actions**.

Two Instructional Look Fors (Rigor: 4. Social Emotional Habits, and Collaboration: 5. Group Processing) did not appear on any of the observation protocols. In addition, because the observation protocols were being developed during the same time that the Instructional Look Fors were being revised and finalized for publication by the original development partnership, there were two educator actions (of 162) that did appear on a few observation protocols and in this dataset but were not included in the final, published version of the Instructional Look Fors. Moving forward, LUSD will only use Instructional Look For educator actions from the final, published version.

A total of 292 unique observations took place and were analyzed for this study.

 **NOTE!**	We use the following language regarding observations throughout this report: ● Observation protocol = the specific, unique combination of educator actions and Instructional Look Fors on the form that was used to conduct a certification observation for each professional learning opportunity. ● Observation = each specific occasion that a single observer visited a learning environment to document the occurrence of learning facilitator and learner behaviors on a single observation protocol.

Note that an individual learning facilitator could have been included in the data set multiple times, either through having a second observation if the first resulted in them not being recommended for certification, or through seeking certification in multiple professional learning opportunities. A total of 148 individual learning facilitators were represented in this dataset, which means that approximately three-quarters of all learning facilitators at LUSD sought certification in, and was therefore observed for, at least one professional learning opportunity.

Some professional learning opportunities included multiple, informal observations in addition to the single, formal observation that was completed as part of the certification process. This dataset only includes data from single, formal, certification observations.

Table 1: Number of observations included in this study by year and professional learning opportunity

Professional Learning Opportunity		Observation Type	Number of Eligible Observations	
Name	Type		Year 1	Year 2
Balanced Literacy	Site-Based Academy	Multiple informal + Single Observation	0	17
Blended Learning	Learning Academy	Single Observation	9	9
Cognitively Guided Instruction for Math	Learning Academy	Single Observation	0	3
Customized Learning	Micro-Credential	Multiple informal + Single Observation	0	9
Designated English Language Development	Learning Academy	Single Observation	12	3*
Digital Skills	Learning Academy	Single Observation	9	0
English Language Development	Site-Based Academy	Multiple informal + Single Observation	0	7*
Fast Runners	Learning Academy	Single Observation	11	0
Guided Reading 101	Learning Academy	Single Observation	48	18
Guided Reading 101b	Learning Academy	Single Observation	0	4
Guided Reading 201	Micro-Credential	Single Observation	0	20
Guided Writing 101	Learning Academy	Single Observation	0	17

Integrated English Language Development	Micro-Credential	Single Observation	0	4*
Literature Groups	Learning Academy	Single Observation	0	18
PBLWorks	Micro-Credential	Single Observation	0	20
SOAR Academic Discussions for English Learners	Site-Based Academy	Multiple informal + Single Observation	0	13
STEM Educator Certification	Micro-Credential	Single Observation	0	8
Thinking Maps	Site-Based Academy	Multiple informal + Single Observation	0	10
Writing in the Content Areas	Site-Based Academy	Multiple informal + Single Observation	0	21

Note: *The site-based English Language Development Academy offered in Year 2 included some learning facilitators who were observed using the observation protocol developed for designated English language development, and some using the protocol developed for integrated English language development, as relevant to the learning environment that was observed. The professional learning opportunity experience was the same for this group of learning facilitators regardless of the observation protocol used.

Given that each observation protocol was developed for a single professional learning opportunity and included only a small subset of Instructional Look For educator actions, the full dataset used for this report represents a complex alignment of professional learning opportunities and educator actions. The tables below, one for each principle, outline which Instructional Look Fors were represented in the different observation protocols, and the number of educator actions that were included for each.

Table 2: Crosswalk of the Rigor Instructional Look Fors and professional learning opportunities through observation protocols

Instructional Look Fors by Principle (Total Number of Educator Actions)	Included Educator Actions Across All Protocols	Professional Learning Opportunity	Included Educator Actions									
Rigor			1	2	3	4	5	6	7	8	9	10
1b: Cognitive Lift (10 educator actions)	9	Balanced Literacy	X			X			X		X	
		Cognitively Guided Math						X	X	X		
		Customized Learning		X	X							
		Designated English			X	X				X	X	
		Fast Runners									X	
		Int English Development			X	X		X	X	X	X	
		Literature Groups				X			X	X		
		PBLWorks	X									
		SOAR for English Learners								X		
		STEM Certification	X					X		X		
		Thinking Maps		X				X	X			
		Writing in Content Areas	X			X			X		X	
2b: Higher-Order Thinking (8 educator actions)	8	Balanced Literacy	X	X	X	X		X	X	X		
		Blended Learning			X			X				
		Cognitively Guided Math			X					X		
		Digital Skills								X		
		Fast Runners								X		
		Guided Reading 101								X		
		Guided Reading 101b								X		
		Guided Reading 201							X	X		
		Guided Writing 101			X					X		
		Literature Groups							X			
		PBLWorks										
		SOAR for English Learners		X	X					X		

		STEM Certification					X						
		Thinking Maps											
		Writing in Content Areas	X										
3b: Essential Knowledge (10 educator actions)	6	Balanced Literacy	X	X	X	X	X	X					
		Cognitively Guided Math											
		Designated English	X			X		X					
		Digital Skills											
		Fast Runners			X								
		Int English Development		X		X	X						
		Literature Groups	X				X						
		SOAR for English Learners					X						
		STEM Certification				X	X						
		Thinking Maps											
		Writing in Content Areas		X		X	X						
4b: Social Emotional Habits (4 educator actions)	0	N/A											

Note: The following abbreviations are used in this table: Cognitively Guided Math for Cognitively Guided Instruction for Math, Designated English for Designated English Language Development, Int English Development for Integrated English Language Development, SOAR for English Learners for SOAR Academic Discussions for English Learners, STEM Certification for STEM Educator Certification.

Table 3: Crosswalk of the Customization Instructional Look Fors and professional learning opportunities through observation protocols

Instructional Look Fors by Principle (Total Number of Educator Actions)	Included Educator Actions Across All Protocols	Professional Learning Opportunity	Included Educator Actions									
Customization			1	2	3	4	5	6	7	8	9	10
1b: Appropriate Challenge (15 educator actions)	8	Balanced Literacy	X	X		X		X	X	X	X	
		Blended Learning	X	X						X		
		Cognitively Guided Math						X			X	
		Customized Learning	X			X			X	X	X	
		Designated English	X	X		X		X	X			
		Fast Runners	X	X								
		Guided Reading 101	X						X	X		
		Guided Reading 101b	X						X	X		
		Guided Reading 201	X						X	X		
		Guided Writing 101	X				X		X	X		
		Int English Development	X	X		X		X	X		X	
		Literature Groups	X									
		PBLWorks				X					X	
		Writing in Content Areas	X	X		X		X	X	X	X	
2b: Student Driven (7* educator actions)	7	Balanced Literacy	X	X	X	X	X	X	*			
		Blended Learning	X	X	X		X		*			
		Customized Learning	X	X	X	X	X	X				
		Designated English				X						
		Fast Runners										
		Guided Reading 101	X				X					
		Guided Reading 101b	X				X					
		Guided Reading 201	X				X					
		Guided Writing 101	X				X					
		Int English Development		X			X		*			

		Literature Groups											
		PBLWorks		X		X							
		SOAR for English Learners	X				X						
		STEM Certification					X						
		Thinking Maps		X		X							
		Writing in Content Areas			X	X	X						
3b: Additional Supports for Students with IEPs or Defined Language Needs (e.g., ELs) (8 educator actions)	6	Balanced Literacy		X	X	X	X	X					
		Blended Learning		X	X		X						
		Customized Learning	X	X									
		Designated English			X		X						
		Guided Reading 101					X						
		Guided Reading 101b				X	X						
		Guided Reading 201					X						
		Guided Writing 101				X	X						
		Int English Development			X		X						
		PBLWorks		X									
		SOAR for English Learners					X						
		Thinking Maps		X	X		X						
		Writing in Content Areas			X		X						
4b: Demonstrations of Learning (7 educator actions)	4	Balanced Literacy	X	X	X	X							
		Blended Learning	X	X		X							
		Cognitively Guided Math		X									
		Customized Learning		X									
		Fast Runners	X	X	X								
		Guided Reading 101				X							
		Guided Reading 101b				X							
		Guided Reading 201				X							
		Guided Writing 101				X							
		Literature Groups				X							
		PBLWorks		X		X							
		Thinking Maps	X	X									

		Writing in Content Areas	X		X	X						

Note: *Some observation protocols each included an Instructional Look For educator action that was not included in the final published (October 2018) version of the Instructional Look Fors. These two educator actions were retained and numbered sequentially in the data set.
The following abbreviations are used in this table: Cognitively Guided Math for Cognitively Guided Instruction for Math, Designated English for Designated English Language Development, Int English Development for Integrated English Language Development, SOAR for English Learners for SOAR Academic Discussions for English Learners, STEM Certification for STEM Educator Certification.
Appropriate challenge educator actions numbered 10-15 were not included on any observation protocol.

Table 4: Crosswalk of the Purposefulness Instructional Look Fors and professional learning opportunities through observation protocols

Instructional Look Fors by Principle (Total Number of Educator Actions)	Included Educator Actions Across All Protocols	Professional Learning Opportunity	Included Educator Actions									
Purposefulness			1	2	3	4	5	6	7	8	9	12
1b: Goal Orientation (8 educator actions)	4	Balanced Literacy	X		X		X			X		
		Blended Learning								X		
		Customized Learning	X		X					X		
		Designated English	X				X					
		Int English Development	X				X					
		PBLWorks	X									
		SOAR for English Learners					X					
		Writing in Content Areas	X		X		X			X		
2b: Awareness of Progress (7* educator actions)	5	Balanced Literacy	X			X	X	X	*			
		Blended Learning	X			X		X				
		Designated English				X						
		Int English Development										
		Literature Groups										
		SOAR for English Learners					X	X				
		STEM Certification						X				
		Writing in Content Areas	X				X	X	*			
3b: Growth Mindset (5 educator actions)	3	Balanced Literacy	X	X		X						
		Blended Learning	X	X								
		Cognitively Guided Math				X						
		Designated English										
		Int English Development										
		Writing in Content Areas	X			X						
4b: Academic Urgency (17 educator actions)	9	Balanced Literacy			X	X	X	X			X	
		Blended Learning						X	X	X	X	

		Designated English			X	X		X					
		Guided Reading 101			X		X	X					
		Guided Reading 101b			X		X						
		Guided Reading 201			X		X						
		Guided Writing 101			X		X						
		Int English Development			X	X						X	
		Literature Groups						X					**
		PBLWorks				X							
		SOAR for English Learners											
		STEM Certification		X									
		Writing in Content Areas			X	X	X					X	

Note: *Some observation protocols each included an Instructional Look For educator action that was not included in the final published (October 2018) version of the Instructional Look Fors. These two educator actions were retained and numbered sequentially in the data set.
**Note that this is educator action numbered 12, not 10. Academic urgency educator actions numbered 10, 11, and 13-17 were not included on any observation protocol.
The following abbreviations are used in this table: Cognitively Guided Math for Cognitively Guided Instruction for Math, Designated English for Designated English Language Development, Int English Development for Integrated English Language Development, SOAR for English Learners for SOAR Academic Discussions for English Learners, STEM Certification for STEM Educator Certification.

Table 5: Crosswalk of the Relevance Instructional Look Fors and professional learning opportunities through observation protocols

Instructional Look Fors by Principle (Total Number of Educator Actions)	**Included Educator Actions Across All Protocols**	**Professional Learning Opportunity**	**Included Educator Actions**					
Relevance			1	2	3	4	5	6
1b: Personal Relevance (6 educator actions)	4	Balanced Literacy	X	X		X		
		Blended Learning					X	
		Digital Skills		X				
		Fast Runners	X					
		Literature Groups	X					

		STEM Certification	X						
		Thinking Maps	X	X					
2b: Academic Relatedness (4 educator actions)	3	Balanced Literacy	X	X	X				
		Customized Learning		X	X				
		STEM Certification	X		X				
		Thinking Maps							
		Writing in Content Areas		X					
3b: Real-World Authenticity (4 educator actions)	4	Balanced Literacy	X	X	X				
		Blended Learning			X				
		Cognitively Guided Math		X					
		Customized Learning	X	X	X				
		Digital Skills		X		X			
		PBLWorks		X					
		Thinking Maps							
		Writing in Content Areas		X					
4b: Cultural Relevance (6 educator actions)	2	Balanced Literacy		X					
		Blended Learning		X					
		Fast Runners			X				
		Writing in Content Areas		X					

Note: The following abbreviations are used in this table: Cognitively Guided Math for Cognitively Guided Instruction for Math, Designated English for Designated English Language Development, Int English Development for Integrated English Language Development, SOAR for English Learners for SOAR Academic Discussions for English Learners, STEM Certification for STEM Educator Certification.

Table 6: Crosswalk of the Collaboration Instructional Look Fors and professional learning opportunities through observation protocols

Instructional Look Fors (Total Number of Educator Actions)	Included Educator Actions Across All Protocols	Professional Learning Opportunity	Included Educator Actions						
Collaboration			1	2	3	4	5	6	7
1b: Positive Interdependence (4 educator actions)	4	Designated English	X	X	X	X			
		Int English Development	X	X	X	X			
		Literature Groups			X	X			
		SOAR for English Learners				X			
		Thinking Maps	X		X				
2b: Individual Accountability (4 educator actions)	3	Balanced Literacy	X	X	X				
		Blended Learning		X					
		Designated English		X					
		Guided Reading 101	X						
		Guided Reading 101b	X						
		Guided Reading 201	X		X				
		Guided Writing 101	X						
		Int English Development	X	X					
		STEM Certification	X	X					
		Writing in Content Areas	X	X					
3b: Interpersonal Skills (7 educator actions)	6	Balanced Literacy	X	X				X	
		Literature Groups		X	X	X	X		
		SOAR for English Learners	X						
		STEM Certification	X						
		Thinking Maps							
		Writing in Content Areas						X	
4b: Promotive Interactions (4 educator actions)	4	Cognitively Guided Math	X						
		Designated English	X						

		Int English Development	X							
		Literature Groups	X		X					
		PBLWorks	X							
		SOAR for English Learners				X				
		Thinking Maps	X	X						
5b: Group Processing (5 educator actions)	0	N/A								

Note: The following abbreviations are used in this table: Cognitively Guided Math for Cognitively Guided Instruction for Math, Designated English for Designated English Language Development, Int English Development for Integrated English Language Development, SOAR for English Learners for SOAR Academic Discussions for English Learners, STEM Certification for STEM Educator Certification.

Table 7: Crosswalk of the Community Instructional Look Fors and professional learning opportunities through observation protocols

Instructional Look Fors (Total Number of Educator Actions)	**Included Educator Actions Across All Protocols**	**Professional Learning Opportunity**	**Included Educator Actions**								
Community			1	2	3	4	5	6	7	8	9
1b: Belonging (8 educator actions)	4	Balanced Literacy	X	X			X				
		Cognitively Guided Math		X			X				
		Guided Reading 101		X			X				
		Guided Reading 101b		X			X				
		Guided Reading 201		X							
		Guided Writing 101		X							
		Int English Development	X								
		PBLWorks	X	X		X					
		SOAR for English Learners	X								
		Writing in Content Areas	X	X							
2b: Joy (7 educator actions)	4	Blended Learning		X					X		
		Cognitively Guided Math			X						
		PBLWorks						X			

3b: Equitable Engagement (6 educator actions)	6	Balanced Literacy	X	X	X	X	X	X					
		Cognitively Guided Math		X		X							
		Designated English					X	X					
		Fast Runners			X								
		Guided Reading 101	X										
		Guided Reading 101b	X										
		Guided Reading 201	X										
		Guided Writing 101	X										
		Int English Development			X		X	X					
		Literature Groups			X								
		SOAR for English Learners	X					X					
		STEM Certification		X									
		Writing in Content Areas	X		X								
4b: Connectedness (9 educator actions)	5	Cognitively Guided Math	X		X								
		Designated English					X						
		Fast Runners							X				
		Guided Reading 101	X										
		Guided Reading 101b	X										
		Guided Reading 201	X										
		Guided Writing 101	X										
		Literature Groups								X			
5b: Upholding Norms (8 educator actions)	3	Blended Learning	X					X					
		Guided Reading 101	X										
		Guided Reading 101b	X										
		Guided Reading 201	X										
		Guided Writing 101	X										
		Literature Groups	X			X							
		PBLWorks											

Note: The following abbreviations are used in this table: Cognitively Guided Math for Cognitively Guided Instruction for Math, Designated English for Designated English Language Development, Int English Development for Integrated English Language Development, SOAR for English Learners for SOAR Academic Discussions for English Learners, STEM Certification for STEM Educator Certification.

It's important to note that, although each individual educator action was conceived of as being almost interchangeable with the other educator actions that demonstrate an Instructional Look For, the frequency with which they were included on observation protocols suggests that this was not the case in practice.

- Some specific educator actions were included in almost every observation protocol, for example: Customization: Appropriate Challenge "1. Reviewing data on learners' current levels of understanding and skill to modify activities appropriately for different individuals and groups." This educator action was later reworded in the published version of the Instructional Look Fors to, "1. Reviewing a balance of quantitative and qualitative data on students' current levels of understanding and skill to modify activities appropriately for different individuals and groups." This educator action was included on 12 of the 19 protocols.
- Others were included on very few protocols (such as Relevance: Personal Relevance "5. Reviewing data on learners' preferences for learning to modify activities appropriately for individuals and groups." which was included on only one protocol).

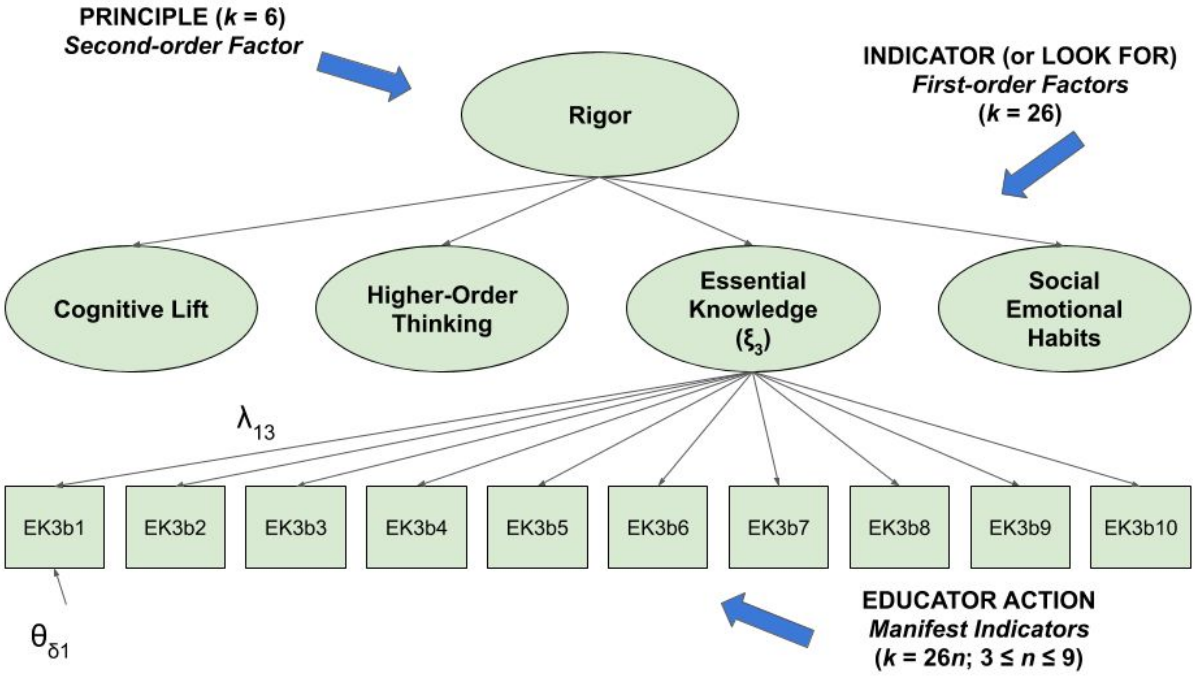
There may be a few reasons for this variance in inclusion of educator actions on observation protocols.

1) **Inherent Observability:** Certain educator actions might be more inherently "observable," and thus better candidates for an observation protocol. In addition, some educator actions might be more specific to, or aligned with, particular content areas or content levels, making them less likely to be included on protocols to be used in different content areas and/or content levels. This inherent observability may be already captured in the Instructional Look Fors through the tagging of "P" for planned educator actions and "F" for educator actions that are facilitated spontaneously. Educator actions are tagged "P/F" if they are either. Future analyses will examine if there are relationships between the planned vs. spontaneous nature of an educator action, its inclusion on observation protocols, and its frequency of observation in learning environments.
2) **Actions that build on one another**: Some educator actions are foundational to other educator actions, making them more likely to be observed.
3) **Learning Community Prioritization:** Some educator actions may also have been implicitly or explicitly prioritized by leadership within the learning community, making them more likely to be included on an observation protocol, and also more likely to be demonstrated in a learning environment.
4) **Frequency of Interaction:** Educator actions that appear on multiple observation protocols may have been reinforced in multiple professional learning opportunities, and thus would be more likely to be observed within the learning environment of a learning facilitator who participated in professional learning opportunities that did reinforce the same educator actions.

RQ 1: How have the Instructional Look Fors been operationalized at LUSD?

To date, all of the research behind the Instructional Look Fors has been theoretical and based on existing data. LUSD is testing its hypothesis about how the Instructional Look Fors connect professional learning and learner outcomes by operationalizing the Instructional Look Fors and making them into concrete measures of adult behavior in learning environments.

Figure 6: Theoretical framework for the measurement model connecting principles, Instructional Look Fors, and educator actions



Note: The remaining five principles, 22 Instructional Look Fors, and 150+ educator actions are omitted from the model for ease of display. This example focuses on the observable educator actions that are used to indirectly measure the Essential Knowledge facet of Rigor.

As previously described, instructors of professional learning opportunities have bounded flexibility in how these Instructional Look Fors are used in their observation protocols. Thus, we first determined, descriptively, how Instructional Look For educator actions appeared on observation protocols across the entire dataset.

Across all observation protocols, **the principles of Customization and Purposefulness appeared most frequently on protocols**, and Relevance and Collaboration least frequently. **Student Driven**

within the Customization principle was the Instructional Look For most commonly included, appearing on 16 protocols.

Next we turned to the frequency with which Instructional Look Fors were actually observed in learning environments. Because different observation protocols included different Instructional Look Fors, we report this frequency as a percentage of the number of times an Instructional Look For could have been observed (in other words, a percentage of the total number of times the Instructional Look For was searched for during an observation). Instructional Look Fors identified in **green bold** were those prioritized in the implementation by LUSD during initial years of the grant.

Table 8: Frequency with which Instructional Look Fors were observed across all observation protocols, Years 1 and 2

Instructional Look Fors by Principle	Total Observed Educator Actions (Across Protocols)	Total Possible Educator Actions (Across Protocols)	Percent Observed
Rigor			
1b: Cognitive Lift	323	398	81.2%
2b: Higher-Order Thinking	244	328	74.4%
3b: Essential Knowledge	209	233	89.7%
4b: Social Emotional Habits*	na	na	na
Customization			
1b: Appropriate Challenge	632	811	77.9%
2b: Student Driven	518	691	75.0%
3b: Additional Supports for Students with IEPs or Defined Language Needs (e.g., ELs)	430	516	83.3%
4b: Demonstrations of Learning	276	424	65.1%
Purposefulness			
1b: Goal Orientation	239	331	72.2%
2b: Awareness of Progress	213	296	72.0%

3b: Growth Mindset	90	115	78.3%
4b: Academic Urgency	545	665	82.0%
Relevance			
1b: Personal Relevance	104	148	70.3%
2b: Academic Relatedness	71	106	67.0%
3b: Real-World Authenticity	109	147	74.2%
4b: Cultural Relevance	42	65	64.6%
Collaboration			
1b: Positive Interdependence	107	145	73.8%
2b: Individual Accountability	269	303	88.8%
3b: Interpersonal Skills	114	157	72.6%
4b: Promotive Interactions	73	104	70.2%
5b: Group Processing*	na	na	na
Community			
1b: Belonging	247	261	94.6%
2b: Joy	15	39	38.5%
3b: Equitable Engagement	248	315	78.7%
4b: Connectedness	140	157	89.2%
5b: Upholding Norms	137	161	85.1%

Note: * No educator actions in this Instructional Look For were included in Year 1 or 2 protocols.

Overall, **24 of the 26 Instructional Look Fors were included on at least one observation protocol**. For all included educator actions, across all observations, the frequency with which Instructional Look Fors were observed ranged from 38.5% (Community: Joy) to 94.6% (Community: Belonging). **For Instructional Look Fors that were intentionally prioritized by LUSD, the frequency of observation ranged from 65.1% (Customization: Demonstrations of Learning) to 89.7% (Rigor: Essential Knowledge)**.

An expanded table showing this same information for each of the educator actions is included in Appendix A.

Considerations

We cannot at this point make causal inferences about the relationship between particular professional learning opportunities and any variation in the frequency with which the same Instructional Look Fors were observed across observations. There were no cases of an individual learning facilitator being observed by two observers during the same observation, therefore inter-rater reliability could not be determined from these data. This means that we should interpret these frequency data with caution. For example, it remains unclear whether the same or different behaviors in learning environments led to the same Instructional Look For educator action being marked "observed" by different observers. If the same Instructional Look For (or even educator action) was found to be observed at different frequencies across observation protocols, we cannot assume that this was due to differences in actions in the learning environment — these differences could also be due to different observers interpreting and coding Instructional Look Fors or educator actions differently. A potential future strategic question for LUSD to consider, then, is whether to conduct observations with multiple observers to determine how similar raters perceptions are.

Further, in thinking about how LUSD chose to operationalize the Instructional Look Fors, **it is important to consider that local context matters as does variance in the structure and quantity of the educator actions themselves.**

1. LUSD prioritized the implementation of 13 of the 26 Instructional Look Fors. The bolded Instructional Look Fors are those prioritized and were often observed at a higher frequency.
2. The frequency of prioritized Instructional Look Fors (and related educator actions) is likely related to site-level goals and professional learning emphasis in a local context (i.e., district initiative).
3. In addition, it is likely that the more easily inherently observable the educator action, the more likely it is that the action was observed.
4. It should be considered that some Instructional Look Fors that appear with more implemented and observed frequency, such as Appropriate Challenge, house the most possible number of educator actions.

RQ 2: What is the internal consistency reliability of the Instructional Look Fors?

For the second research question, we examine the extent to which educator actions are *reliable* measures of their respective Instructional Look Fors. To do so, we computed *internal consistency* coefficients, which essentially index the degree of alignment among scores from multiple items (e.g., educator actions) that purport to measure the same general construct (e.g., Instructional Look For). In practice, if a learning facilitator is leveraging various strategies that support the

development of a given Instructional Look For, then its respective educator actions are likely to be observed in similar patterns.

A commonly used metric of internal consistency is Cronbach's alpha. However, Cronbach's alpha assumes scores are continuous. Because the educator actions are either observed or not observed (i.e., dichotomous), we used a special case of Cronbach's alpha that was developed for dichotomous (or binary) items called the Kuder-Richardson Formula 20 (KR-20). As mentioned previously, the data used here represent a complex mix of professional learning opportunities and educator actions. Because we had small sample sizes in some instances and a lack of overlap in educator actions across observations, we were unable to compute internal consistency coefficients for all Instructional Look Fors. For those we were able to compute, we also included a metric that calculates the improvement in internal consistency that would be achieved if the least consistent item (i.e., educator action) was omitted from the measure of the relevant Instructional Look For. We provide all items for which this would be the case.

 **NOTE!**	Items for which internal consistency would improve if the item/educator action were omitted are not necessarily "bad" items; rather, the data are saying the item is functioning in a different manner than the other educator actions in the Instructional Look For.

To interpret the internal consistency coefficient, we are considering less than .50 as low reliability, between .50 and .80 as moderate reliability, and greater than .80 as high reliability.[2] It is important to interpret these as general guidelines rather than definitive evaluations. The desired range of internal consistency depends on the purpose of the measure. Although measures of a single construct (e.g., a single Instructional Look For) should demonstrate internal consistency, coefficients that approach 1.00 are uneconomical in practice because they are redundantly measuring the same concept in multiple ways without tapping any unique aspects of the full construct domain.

In the table below, we present the internal consistency reliability for each Instructional Look For, and the range of observations (or data points) for each educator action within that Instructional Look For. The final column of the table outlines the educator action that measures the Instructional Look For least consistently, along with the improved reliability if that educator action were to be removed from the measure.

For example, the nine educator actions that were used to indicate Cognitive Lift across all protocols had internal consistency of .60, which is considered "moderate" reliability. If educator action, "9. Correcting or encouraging learners who are disengaged from learning activities." is removed as an indicator of this Instructional Look For, then the reliability goes up to .68, which is still moderate. LUSD may consider revising or no longer including in observation protocols

[2] Salvucci, S., Walter, E., Conley, V., Fink, S., & Saba, M. (1997). Measurement error studies at the National Center for Education Statistics (NCES). Washington D. C.: U. S. Department of Education.

educator actions that reduce the reliability of an Instructional Look For by a substantial amount, especially those that change the category of reliability — say from Moderate to Low.

Low internal consistency reliability, even when the most unreliable item is removed from the Instructional Look For, does not mean that the Instructional Look For is unimportant or should not be measured. Rather, the specific educator actions that were used in the analysis are not reliably measuring a single construct (and by extension they are not reliable measures of that Instructional Look For). There are multiple potential reasons for this lack of reliability:

1. **Measures Different Constructs:** It is possible that one or more educator actions are consistently measuring a construct that is different from the construct(s) the other educator actions within the Instructional Look For are measuring. If this is the case, educator actions may need to be reworded to be more like each other, or educator actions from the Instructional Look For that were not included in the analysis may prove to be more aligned with each other (and thus improve the reliability with which the Instructional Look For is measured).
2. **Not Consistently Measuring Any Construct:** It is also possible that one or more of the educator actions within the Instructional Look For is not consistently measuring any construct. These educator actions may need to be reworded to make them more consistent, or excluded as measures in favor of other educator actions that are more consistent.

Specifics about these findings and recommendations for how LUSD might consider improving reliability are included below the table.

Table 9: Internal consistency reliability of Instructional Look Fors, observed across all observation protocols, Years 1 and 2

Instructional Look Fors by Principle	Number of Observations per Educator Action	Internal Consistency Coefficient	Reliability	Least Consistent Educator Action (reliability if educator action deleted)
Rigor				
1b: Cognitive Lift (Included educator actions = 9)	*n* = 19-104	.60	Moderate	9 (.68)
2b: Higher-Order Thinking (Included educator actions = 8)	*n* = 3-130	.48	Low	3 (.53)
3b: Essential Knowledge	*n* = 4-70	.36	Low	4 (.54)

(Included educator actions = 6)				
4b: Social Emotional Habits* (Included educator actions = 4)	na	na	na	na
Customization				
1b: Appropriate Challenge (Included educator actions = 9)	*n* = 36-174	.70	Moderate	4 (.72)
2b: Student Driven (Included educator actions = 7)	*n* = 14-169	.55	Moderate	3 (.59) 7 (.56)
3b: Additional Supports for Students with IEPs or Defined Language Needs (e.g., ELs) (Included educator actions = 6)	*n* = 48-145	.76	Moderate	2 (.78)
4b: Demonstrations of Learning (Included educator actions = 4)	*n* = 33-196	.49	Low	2 (.50)
Purposefulness				
1b: Goal Orientation (Included educator actions = 8)	*n* = 36-91	.55	Moderate	none
2b: Awareness of Progress (Included educator actions = 7	*n* = 35-104	.73	Moderate	5 (.74)
3b: Growth Mindset (Included educator actions = 5)	na	na	na	na
4b: Academic Urgency (Included educator actions = 9)	*n* = 31-162	.68	Moderate	none
Relevance				
1b: Personal Relevance (Included educator actions = 6)	na	na	na	na
2b: Academic Relatedness (Included educator actions = 3)	*n* = 14-50	.55	Moderate	3 (.91)
3b: Real-World Authenticity (Included educator actions = 4)	*n* = 8-81	.61	Moderate	1 (.79)
4b: Cultural Relevance (Included educator actions = 6)	na	na	na	na

Collaboration				
1b: Positive Interdependence (Included educator actions = 4)	*n* = 19-50	.62	Moderate	3 (.64)
2b: Individual Accountability (Included educator actions = 4)	*n* = 4-173	.48	Low	1 (.61)
3b: Interpersonal Skills (Included educator actions = 6)	*n* = 18-36	1.00	High	–
4b: Promotive Interactions (Included educator actions = 4)	na	na	na	na
5b: Group Processing* (Included educator actions = 5)	na	na	na	na
Community				
1b: Belonging (Included educator actions = 8)	na	na	na	na
2b: Joy (Included educator actions = 7)	na	na	na	na
3b: Equitable Engagement (Included educator actions = 6)	*n* = 17-109	.89	High	3 (.98)
4b: Connectedness (Included educator actions = 9)	na	na	na	na
5b: Upholding Norms (Included educator actions = 8)	na	na	na	na

Note: * No educator actions in this Instructional Look For were included in Year 1 or 2 protocols.

Ten Instructional Look Fors lacked sufficient data to analyze internal consistency reliability (including the two Instructional Look Fors for which no educator actions were included on any observation protocol). Based on the results above, overall **the educator actions used on observation protocols are reliable indicators of the following 12 Instructional Look Fors, of the 16 that had sufficient data**:

- Rigor: Cognitive Lift
- Customization:
    - Appropriate Challenge
    - Student Driven
    - Additional Supports for Students with IEPs or Defined Language Needs (e.g., ELs)
- Purposefulness:
    - Goal Orientation

    - Awareness of Progress
    - Academic Urgency
- Relevance:
    - Academic Relatedness
    - Real-World Authenticity
- Collaboration:
    - Positive Interdependence
    - Interpersonal Skills
- Community: Equitable Engagement

Collaboration: Interpersonal Skills and Community: Equitable Engagement both had high reliability, although as previously mentioned, a reliability of 1.00 (which was the case for Interpersonal Skills), suggests that the educator actions used to indicate it are all essentially the same, and that there is no information gained by using all of them to measure this Instructional Look For.

Four Instructional Look Fors showed low reliability (Rigor: Higher-Order Thinking and Essential Knowledge; Customization: Demonstrations of Learning; and Collaboration: Individual Accountability); however, **for three of these, the removal of a single educator action would result in at least moderate reliability**. Therefore, LUSD should consider excluding the following Instructional Look For educator actions from future observation protocols (and instead use other educator actions as indicators of the respective Instructional Look Fors):

- Rigor: Higher-Order Thinking "3. Providing learners with opportunities to apply their learning to new context and problems."
- Rigor: Essential Knowledge "4. Incorporating formative and summative assessments, including checks for understanding, to assess depth of knowledge."
- Collaboration: Individual Accountability "1. Directly checking for understanding among individual group members, to ensure everyone is learning the content and skills."

If removing these particular educator actions does not align with LUSD's adult learning goals, then modification of the educator actions should be considered to test whether the inconsistencies stem from differing interpretations of what the educator action is meant to indicate.

Considerations

Internal consistency reliability tells us the extent to which the group of educator actions for a particular Instructional Look For are all measuring the same construct. It does not tell us the extent to which observers are consistently indicating a particular educator action as being "observed" or "not observed" if the observers were witnessing the same behavior. In order to determine this consistency across observers (i.e., interrater reliability or agreement), we would need data from multiple observers who conduct observations of the same target (in other words, we would need two observers to use the same observation protocol in the same learning

environment at the same time). Without this analysis, it is unclear how much of the variance in consistency across educator actions is due to inconsistency across observers, and how much is due to inconsistency between the individual educator actions themselves.

Practically speaking, it's worthwhile to consider how a district such as LUSD could operationalize a multi-rater practice given the number of potential educator actions and observations that would be required. This analysis might point in two potential directions, the first of which would be to "pare down" the educator actions through a lens of reliability, as the sheer quantity of educator actions can seem unapproachable as a method for professional educator growth. Relatedly, districts and organizations could use a report such as this one to foster discussions about correlation and alignment of the educator actions to local context goals and curriculum programs and systems, prioritizing those Instructional Look Fors most closely related to community goals for additional testing and data collection.

RQ 3: What is the construct validity of the Instructional Look Fors?

After determining which educator actions are consistently indicating which Instructional Look Fors (and therefore which Instructional Look Fors are being reliably measured by LUSD's observation protocols), we turned our attention to the question of, **"Are we measuring what we think we're measuring?"** In essence, *construct validity* is the degree to which a measure is measuring what it purports to measure. Any measurement instrument used in research or practice should have demonstrable evidence that it is of sound quality. One important method of supporting the quality of a measure is through evidence of structural validity. Factor analysis is one approach at demonstrating structural validity, which enables one to empirically examine the quality of fit of a measurement model.[3]

For the third research question, we conducted confirmatory factor analysis. This analysis builds on the second research question, and acts as an extension to internal consistency reliability. Internal consistency reliability assumes items are measuring a unidimensional (i.e., a single) construct; factor analysis tests that assumption. In Table 10, we report the results of the measurement models that we were able to test. To determine the quality of fit (or goodness of fit), we used a chi-square test as well as alternative fit indices such as Tucker-Lewis Index, comparative fit index, root mean squared error of approximation, and standardized root mean square residual.

It is important to understand that reliability is a necessary, but not sufficient, condition for validity. Generally, if the items on a measure are not measuring *something* consistently, then they cannot be measuring what we think they are measuring. In other words, inconsistent indicators (i.e.,

[3] Kline, R. B. 2016. Principles and Practice of Structural Equation Modeling. 4th ed. New York: Guilford Press.

educator actions) lead to unreliable measures, which are likely measuring a combination or confluence of constructs. This combination or confluence of constructs, therefore, cannot be the single unidimensional construct (i.e., Instructional Look For) that we aim to measure.

NOTE!	Sample size requirements are much higher for factor analysis than for internal consistency reliability. In addition, factor analysis is more sensitive than reliability analysis to the extent to which indicators/educator actions overlap — or not — across observations, as well as patterns and levels of missingness in the data set. As a result, validity was only able to be determined for the Instructional Look Fors that had sufficient data *and* that were sufficiently reliably measured by the educator actions that were included across all observation protocols.

Table 10: Quality of fit for confirmatory factor analyses of Instructional Look Fors with model convergence, observed across all observation protocols, Years 1 and 2

Instructional Look Fors by Principle	Total Number of Observations Across Protocols	Educator Actions Included	Quality of Fit
Customization			
1b: Appropriate Challenge	*n* = 252	1, 2, 4, 6, 7, 8, 9	Moderate
2b: Student Driven	na	na	na
3b: Additional Supports for Students with IEPs or Defined Language Needs (e.g., ELs)	*n* = 180	2, 3, 4, 5	Good
4b: Demonstrations of Learning	na	na	na
Purposefulness			
1b: Goal Orientation	*n* = 122	1, 3, 5, 8	Good
2b: Awareness of Progress	*n* = 125	1, 5, 6, 7	Good
3b: Growth Mindset	na	na	na
4b: Academic Urgency	*n* = 194	3, 5, 6, 9	Good

Collaboration			
1b: Positive Interdependence	*n* = 60	1, 2, 3, 4	Poor
2b: Individual Accountability	na	na	na
3b: Interpersonal Skills	na	na	na
4b: Promotive Interactions	na	na	na
5b: Group Processing*	na	na	na

Note: * No educator actions in this Instructional Look For were included in Year 1 or 2 protocols.

Five of the six Instructional Look Fors for which the model converged showed moderate to good fit:

- Customization: Appropriate Challenge
    - Additional Supports for Students with IEPs or Defined Language Needs (e.g., ELs)
- Purposefulness: Goal Orientation
    - Awareness of Progress
    - Academic Urgency

Only one Instructional Look For (Collaboration: Positive Interdependence) showed poor model fit, so the included educator actions across observation protocols seemed to demonstrate a lack of validity as a unidimensional measure of this Instructional Look For.

In addition to the goodness of fit of the overall models, we present the factor loadings for the five Instructional Look Fors with moderate-good model fit in Tables 11-15. Factor loadings index the relationship between the educator actions and the underlying latent construct (i.e., Instructional Look For) they purport to measure. **The standard acceptable factor loading is greater than or equal to .40.**

Table 11: Factor loadings of educator actions from Confirmatory Factor Analysis on Customization: Appropriate Challenge, observed across all observation protocols, Years 1 and 2

Educator Actions for Appropriate Challenge	Total Number of Observations Across Protocols	Factor Loading	Standard Error
1. Reviewing data on learners' current levels of understanding and skill to modify activities appropriately for different individuals and groups.	*n* = 174	.76	.03

2. Including multiple access points into a learning activity that are aligned to learner ability through cues or prompts such as sentence starters, lists of steps for solving a problem, or models.	*n* = 84	.67	.04
4. Incorporating opportunities for small group instruction, and individual conferencing into instruction.	*n* = 137	.86	.03
6. Incorporating both planned and unplanned checks for understanding to assess learner progress.	*n* = 58	.71	.06
7. Providing ongoing support aligned to the amount of challenge individual learners or groups of learners are experiencing through reteaching, questioning, modeling, or discussing.	*n* = 131	.75	.03
8. Reviewing data on learners' progress toward mastery to modify sequence and speed of learning activities appropriately for individuals and groups.	*n* = 129	.72	.04
9. Based on learners' readiness levels, provide them with the minimum amount of teacher guidance necessary to efficiently execute the learning tasks.	*n* = 78	.65	.05

Table 12: Factor loadings of educator actions from Confirmatory Factor Analysis on Customization: Additional Supports for Students with IEPs or Defined Language Needs (e.g., ELs), observed across all observation protocols, Years 1 and 2

Educator Actions for Additional Supports for Students with IEPs or Defined Language Needs (e.g., ELs)	Total Number of Observations Across Protocols	Factor Loading	Standard Error
2. Incorporating different types of learning activities (e.g., individual work, group work, computer-based activities, physical activities, etc.) that support defined needs of a learner.	*n* = 127	.85	.03
3. Organizing content to increase access to academic tasks for English language and special education learners (e.g., graphic organizers, sentence frames, leveled/chunked texts, etc.).	*n* = 133	.83	.03
4. Offering English learners explicit direct instruction of language skills and repeated and purposeful opportunities to practice and apply the new skills.	*n* = 80	.81	.04
5. Using a variety of research-based instructional strategies to support English language and special education learners' academic needs (e.g., building background, comprehensible input, explicit teaching of skills).	*n* = 145	.85	.03

Table 13: Factor loadings of educator actions from Confirmatory Factor Analysis on Purposefulness: Goal Orientation, observed across all observation protocols, Years 1 and 2

Educator Actions for Goal Orientation	Total Number of Observations Across Protocols	Factor Loading	Standard Error
1. Building learner understanding of criteria for success through scoring rubrics or exemplars.	*n* = 91	.62	.05
3. Facilitating daily or weekly routines for goal-setting.	*n* = 51	.66	.07
5. Establishing and articulating goals for learners.	*n* = 69	.95	.03
8. Using assessment data to create goals with learners.	*n* = 50	.58	.06

Table 14: Factor loadings of educator actions from Confirmatory Factor Analysis on Purposefulness: Awareness of Progress, observed across all observation protocols, Years 1 and 2

Educator Actions for Awareness of Progress	Total Number of Observations Across Protocols	Factor Loading	Standard Error
1. Conducting 1:1 check-ins that are planned and prioritized based on student data.	*n* = 104	.73	.04
5. Targeting feedback toward misconceptions and gaps in understanding.	*n* = 45	.80	.05
6. Providing learners with time, tools, and processes to self-reflect and self-evaluate.	*n* = 75	.68	.05
7. Providing learners with time, tools, and processes for peer assessment.	*n* = 36	.61	.08

Table 15: Factor loadings of educator actions from Confirmatory Factor Analysis on Purposefulness: Academic Urgency, observed across all observation protocols, Years 1 and 2

Educator Actions for Academic Urgency	Total Number of Observations Across Protocols	Factor Loading	Standard Error
3. Operating at a speed that models learning is a priority.	*n* = 162	.87	.03
5. Ensuring educator talk only occurs when necessary and is clear and concise when it occurs in order to prioritize learner processing.	*n* = 139	.80	.03
6. Communicating and reinforcing high expectations for learners' productivity and progress.	*n* = 120	.81	.04
9. Communicating clear directions and rationale for activities, including varied daily objectives that allow students to work in a self-directed manner.	*n* = 107	.85	.03

All of the factor loadings across all of the valid Instructional Look Fors show that **every educator action used to indicate these five validly measured Instructional Look Fors contribute meaningfully to measuring the Instructional Look For**. Further, the magnitudes of the factor loadings suggest that the factors (i.e., Instructional Look Fors) account for the majority of variance in the educator actions, and that there exists minimal remaining (or "error" variance) that is accounted for by unmeasured, extraneous factors (namely, factors other than the underlying Instructional Look Fors).

Considerations

As noted previously, observation protocols were developed for individual professional learning opportunities and each included only a small subset of Instructional Look For educator actions. Thus, the full dataset used for this report represents a complex alignment of professional learning opportunities and educator actions. This presented several challenges and limitations when running the statistical models.

1. First, the sample sizes were rather small for the analyses. This prevented us from being able to conduct internal consistency reliability and factor analysis on several Instructional Look Fors. It also required us to omit some of the educator actions from the models.
2. Second, and related to the first, there was a large amount of "missing" data. It would not be practical for an observer to use a protocol that had all 186, or even 162, educator actions; thus, many educator actions had to be treated as missing data in the analysis.
3. Finally, the data were dichotomous (observed or not observed). We were able to use appropriate models (e.g., Kuder-Richardson Formula 20 and tetrachoric correlation matrices) to handle the nature of the data, but dichotomous data naturally have less variance, which may present challenges in the analysis and often attenuates relationships.

Despite these challenges, for two of the principles, Customization and Purposefulness, data were sufficient to run an extension of the confirmatory factor analysis reported above, which combined both factors into a single model and showed good model fit. This further confirms the construct validity of the Customization and Purposefulness Instructional Look Fors as measured by the educator actions included in these analyses. Detailed output from this extended analyses can be found in Appendix B.

Discussion

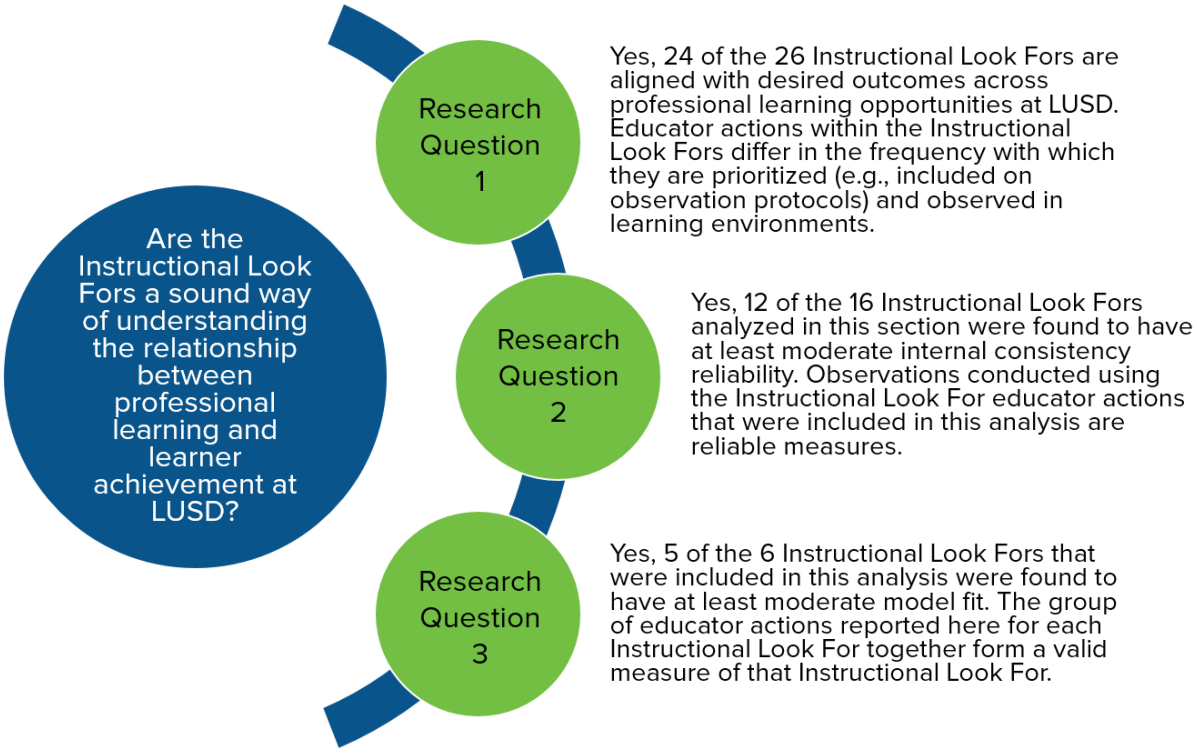
As LUSD continues to rigorously study the efficacy of its professional learning opportunities provided through the TSL grant, it aims to open the "black box" that often lies between adult and student learning. LUSD hypothesizes that one of the critical components in the mechanism between professional learning and learner achievement is the development of adult competencies that ultimately leads to changes in learning facilitator and learner behavior in a learning environment. In order to determine if evidence supports this hypothesis, reliable and valid measures of this behavior are necessary. **Therefore, this report forms the basis for all future studies of professional learning at LUSD, providing rigorous examination, and ultimately validation, of the observation protocols that will continue to be used as a measure of behavior.**

Building the validity argument of any measure is an ongoing process. Different types of evidence provide different elements of support for intended uses. In this report, we examined how the Instructional Look Fors are used in LUSD, their internal consistency reliability, and construct validity of the Instructional Look Fors using data gathered on educator actions.

Generally, we sought to answer one overarching question:

Are the Instructional Look Fors a sound way of understanding the relationship between professional learning and learner achievement at LUSD?

The three research questions in this report focused on how the Instructional Look Fors are being used as intended outcomes of professional learning, and as a measure of desired learning facilitator and learner behavior within a learning environment that facilitates learner achievement.



Recommendations: What we still need to understand

As LUSD continues to implement professional learning opportunities, it becomes more important to clearly understand all of the Instructional Look For educator actions that are being included on observation protocols. Thus, we recommend:

- Streamlining the ways in which Instructional Look For educator actions are included on protocols (i.e., not using observation protocols with aligned indicators that are not the Instructional Look For educator actions themselves).
- Being consistent in the ways in which Instructional Look For educator actions are documented as being "observed" or "not observed" on observation protocols.
- Using each observation protocol to conduct observations in as many learning environments as possible (including those in which learning facilitators did not participate in the specific professional learning opportunity).
- Having multiple observers complete observations with the same observation protocol in the same learning environment at the same time whenever possible, in order to determine inter-rater reliability.
- Developing observation protocols that focus on learner behaviors in addition to the protocols that focus on learning facilitator behaviors, in order to triangulate behavior data and get a fuller picture of the extent to which both learning facilitator and learner behaviors are related to professional learning.

LUSD understands that research findings are only as rigorous as the measures used to collect the data being studied, and intends to use the findings from this report and future studies to inform and improve its professional learning. Understanding the Instructional Look Fors themselves enable LUSD to refine its Adult Learning Curriculum to one that is calibrated and appropriately prioritizes individual Instructional Look Fors. LUSD's aim is to design and conduct studies that fall within Tier 3 (Promising) levels of evidence generation as defined by the Every Student Succeeds Act, and the district's ongoing research work to inform and improve the Instructional Look Fors as a measure for those studies ultimately places LUSD on the right path to achieving that aim.

Using the Instructional Look Fors, with the confidence that they are reliable, valid, and credible measures of behavior in a learning environment, also enables LUSD to make decisions about professional learning offerings themselves, based on the extent to which different professional learning is related to learner outcomes of interest through behavior in the learning environment. Additionally, as the district continues to operationalize the framework as part of its larger approach to human capital management, the reliability, validity, and credibility of the Instructional Look Fors offer opportunities to extend correlation, research, and analysis to educator evaluation frameworks, including the California Standards for the Teaching Profession and how these frameworks can interact to support educator development and capacity building.

Appendix A: Expanded Table 8

Table 1: Expanded Table 8 showing frequency with which Instructional Look For educator actions were observed across all observation protocols, Years 1 and 2

Educator Actions by Instructional Look For	Total Observed (Across Protocols)	Total Possible (Across Protocols)	Percent Observed
Rigor 1b: Cognitive Lift			
1. Employing inquiry-based and investigative learning that is driven by learner questions.	51	61	83.6%
2. Providing plentiful opportunities for deliberate practice.	12	19	63.2%
3. Anticipating student thinking in advance and developing complex extending questions that probe and guide students.	18	33	54.6%
4. Ensuring educator talk only occurs when necessary and is clear and concise when it occurs, in order to prioritize student processing.	64	69	92.8%
5. Breaking questions into pieces that are distributed across multiple learners.	na	na	na
6. Asking for multiple, diverse examples or supporting evidence.	20	25	80.0%
7. Asking learners to explain their process versus only sharing their product.	53	67	79.1%
8. Prompting learners to respond to one another's thoughts and answers instead of the educator doing this, when appropriate.	51	61	83.6%
9. Correcting or encouraging learners who are disengaged from learning activities.	54	63	85.7%
Rigor 2b: Higher-Order Thinking			
1. Utilizing instructional strategies to reduce load on	34	35	97.1%

immediate working memory, such as frequent repetition of new material, explicit direction instruction, deliberate practice, and external memory aids.			
2. Using problems that have multiple solutions or solution paths.	3	13	23.1%
3. Providing learners with opportunities to apply their learning to new contexts and problems.	35	52	67.3%
4. Providing multiple sources of information that vary in type (e.g., visual, written, audio).	14	18	77.8%
5. Including tasks that require learners to evaluate and synthesize a variety of factual and conceptual knowledge in order to draw and defend conclusions.	8	8	100.0%
6. Engaging learners in creating final products that reflect deep mastery.	15	38	39.5%
7. Ensuring the majority of instructional prompts are open-ended questions at the higher levels of DOK.	21	34	61.8%
8. Monitoring student thinking and asking extending questions that probe and guide students to appropriate depth of thinking.	114	130	87.7%
Rigor 3b: Essential Knowledge			
1. Ensuring learning activities require learners to apply skills and habits to facts and concepts that are meaningful and important for learners to know.	20	22	90.9%
2. Including a variety of spiraled opportunities for meaningful and important knowledge to be explained and discussed.	40	41	97.6%
3. Anticipating and monitoring student thinking and asking questions that probe and guide students to appropriate factual and conceptual understanding.	7	7	100.0%
4. Incorporating formative and summative assessments, including checks for understanding, to assess depth of knowledge.	51	64	79.7%
5. Correcting misunderstandings of facts and concepts accurately, completely, and as they arise.	66	70	94.3%

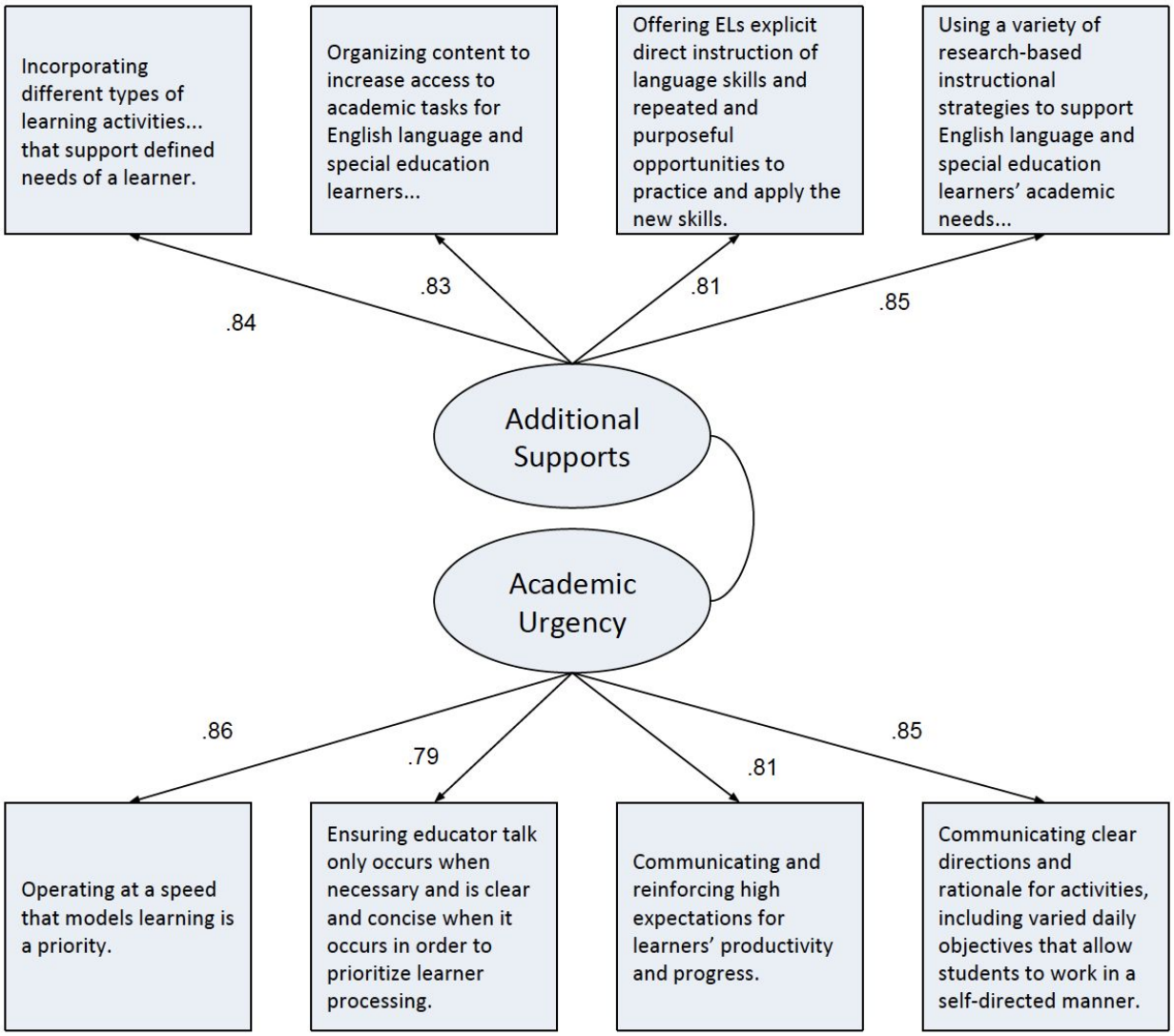
6. Monitoring the topics learners select to focus on when choice is provided to ensure appropriate rigor of facts and concepts, and redirecting as needed.	25	29	86.2%
Rigor 4b: Social Emotional Habits*			
1. Providing explicit direct instruction on key habits.	na	na	na
2. Modeling habits in planned and unplanned moments during instruction.	na	na	na
3. Emphasizing the importance of particular habits at key points.	na	na	na
4. Acknowledging learner demonstrations of habits as positive reinforcement.	na	na	na

Note: * No educator actions were examined or observed in Year 1 or 2 protocols.

Appendix B: Two-Factor Confirmatory Factor Analysis

Single-factor confirmatory factor analyses were carried out for each Instructional Look For that had sufficient data to power the analysis. As a supplementary analysis for Research Question 3, a 2-factor confirmatory factor analysis was conducted to examine the combined measurement model for Instructional Look For 3b (Additional Supports for Students with IEPs or Defined Language Needs) under Customization and Instructional Look For 4b (Academic Urgency) under Purposefulness. Technical details of this model are included here for readers wishing to better understand the statistical details of the model and the findings.

Figure 1: Abbreviated model and factor loadings of 2-factor confirmatory factor analysis with Customization: Additional Supports for Students with IEPs or Defined Language Needs (e.g., ELs) and Purposefulness: Academic Urgency



The 2-factor model (see Figure 1) included four educator actions from each Instructional Look For (i.e., Additional Supports and Academic Urgency). The model was specified such that the four educator actions for Additional Supports and the four educator actions for Academic Urgency loaded only on their respective Instructional Look For. We conducted a maximum likelihood estimation with robust standard errors and a mean- and variance-adjusted test statistic on a sample size (N = 239) sufficient for powering the analysis. The model converged and demonstrated strong fit (χ^2 = 246.69, p < .001; RMSEA = .04, CFI = .97; TLI = .95). As indicated in the figure, all factor loadings were well above the oft-cited cutoff of .40. These findings offer structural validity evidence for the quality of the measurement models and demonstrate discriminant validity evidence that indicates they reliably measure two distinct constructs (or Instructional Look Fors).

Appendix C: Embedded Links

California Standards for the Teaching Profession:
https://www.ctc.ca.gov/docs/default-source/educator-prep/standards/cstp-2009.pdf

Center for Public Research and Leadership at Columbia University:
https://cprl.law.columbia.edu/

LUSD's Ideal Learning Experience:
https://www.lindsay.k12.ca.us/District/Department/427-Curriculum-and-Instruction/18971-Untitled.html

LUSD's Instructional Look Fors:
https://cdn.summitlearning.org/assets/marketing/Instructional_Look_Fors.pdf

LUSD's Strategic Design:
http://lindsayunified.cyberschool.com/view/11918.pdf

Our Partnership and Resources: LUSD's perspective on the external value of the Instructional Look Fors:
https://www.youtube.com/watch?v=HEwPY3wQCso&list=PLIObsw7uQmL7Lv704yyG_IFVA_8NBnFAs

Partnering for Personalized Learning, a collaborative project among Transcend Education, Summit Public Schools, Center for Public Research and Leadership at Columbia University, and LUSD:
https://www.transcendeducation.org/summitlindsay#summitlindsay-introduction

Research and Construction (existing literature) of LUSD's Instructional Look Fors:
https://drive.google.com/open?id=1FSn1XZ-ULC3prXaTqRvPpW7IEKaD0sSX

US ED's ESSA Non-Regulatory Guidance: Using Evidence to Strengthen Education Investments:
https://www2.ed.gov/policy/elsec/leg/essa/guidanceuseseinvestment.pdf