TRIANGULATING ACADEMIC ACHIEVEMENT MEASURES IN LITERACY, MATH AND INQUIRY LEARNING FOR ELEMENTARY SCHOOLS IN 2014 RURAL MEDELIN

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PENSANDO EDUCACION
Universidad de los Andes
March 5, 2018

AGENDA

1. ALIANZA PROGRAM INTERVENTION
2. EVALUATION CONCEPTUAL FRAMEWORK
3. MEASURES (DECONTEXTUALIZED, SEMI-CONTEXTUALIZED & CONTEXTUALIZED)
4. TRIANGULATION OF MEASURES
5. CONCLUSIONS
6. RECOMMENDATIONS

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ALIANZA MODEL: Scope and Purpose

1) Implementation of LEARNING BY DOING in public school classrooms in Antioquia;

2) Training classroom-based facilitators to use teaching practices with students;

3) Providing Tacher Professional Development on LEARNING BY DOING;

4) Providing support to School Site Administrators to facilitate implementation;

5) Working with Secretaries of Education and Mayor's Offices in several municipalities;

5) Developing inter-municipalities networks to export best practices where needed.

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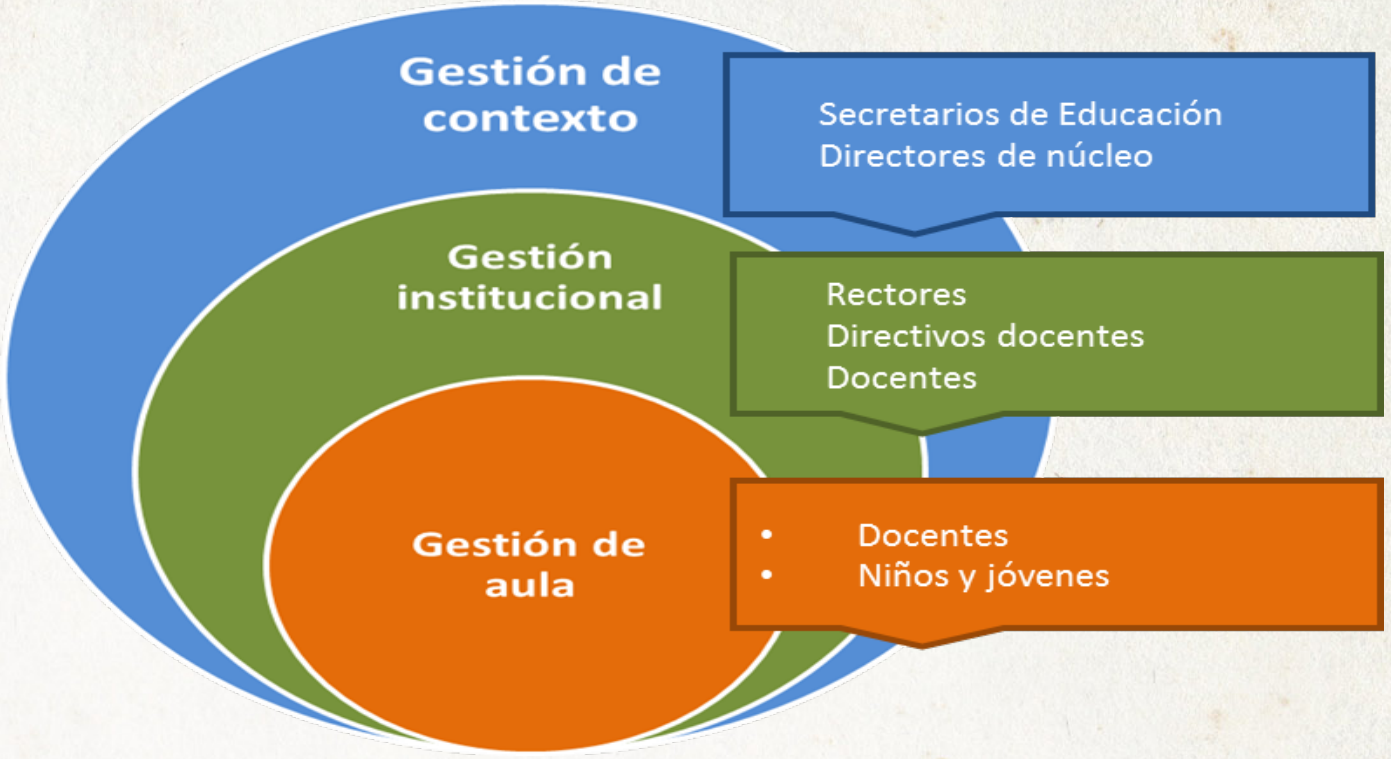
MODELO ALIANZA



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DEMOGRAPHIC DATA

FIVE MUNICIPALITIES		Alianza Program
114	School sites	44 (39%) 4 Urban Sites 2 Rural Sites 38 Rural (Escuela Nueva)
5	Municipal Education Government	5 (100%)
16	Principals	15 (94%)
238	Elementary School Teachers	71(30%)
6.392	Elementary School Students	2.245 (35%)
	Students with Special Needs	221(10%)

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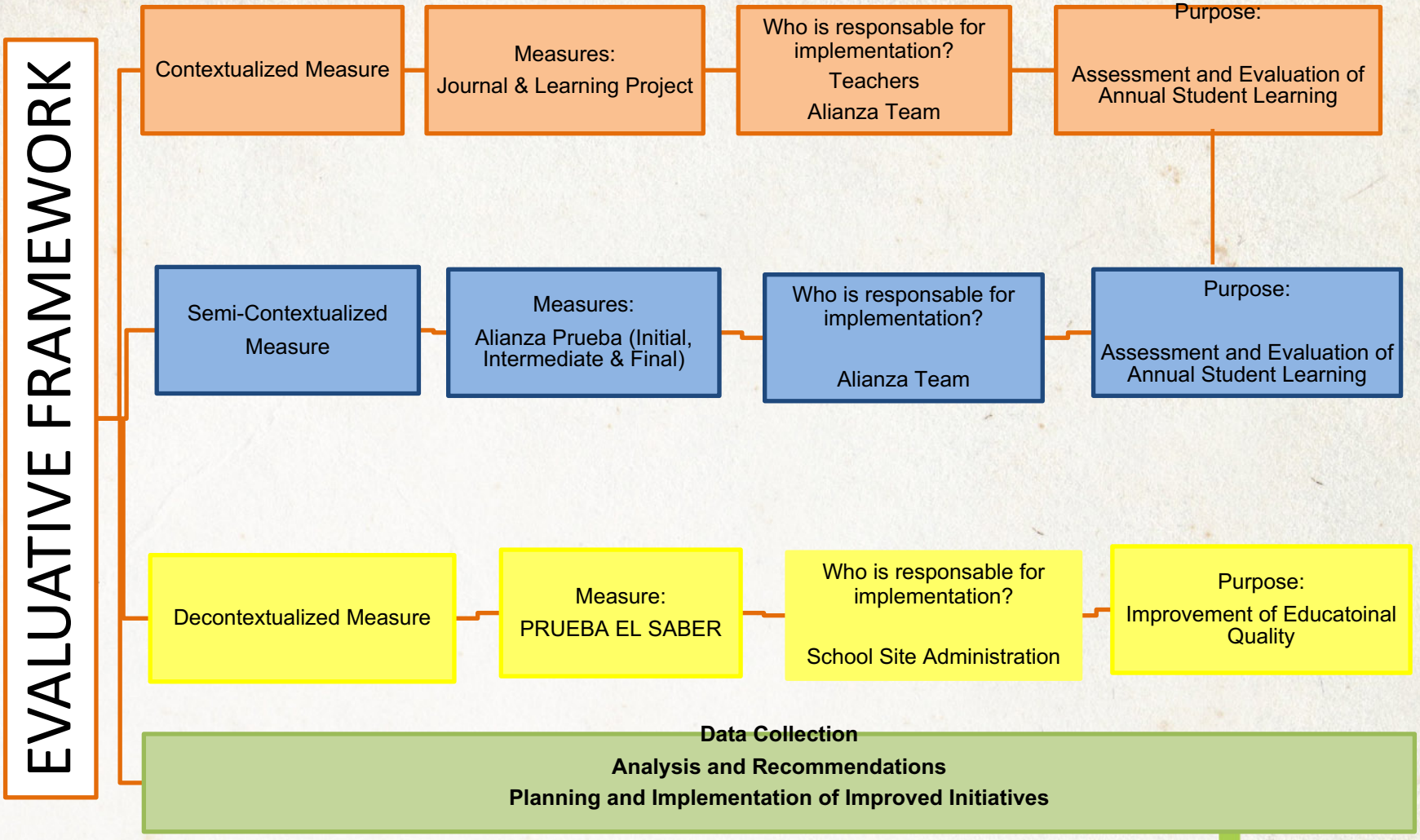
EVALUATIVE FRAMEWORK



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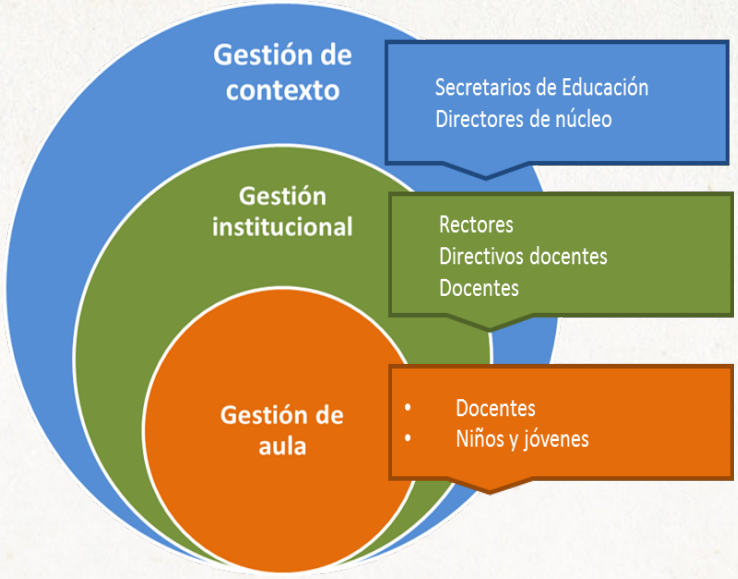
ALIANZA-FULBRIGHT MODEL 2014



Impact Assessment and Evaluation

1. **Municipality Public Policy Level**
2. **School Site Level**
3. **Classroom Management Level**

Process of Evaluation:

1. Overall Purposes
2. Operational Objectives
3. Measures, Instruments and Administration
4. Data Analysis and Findings
5. Conclusions and Recommendations

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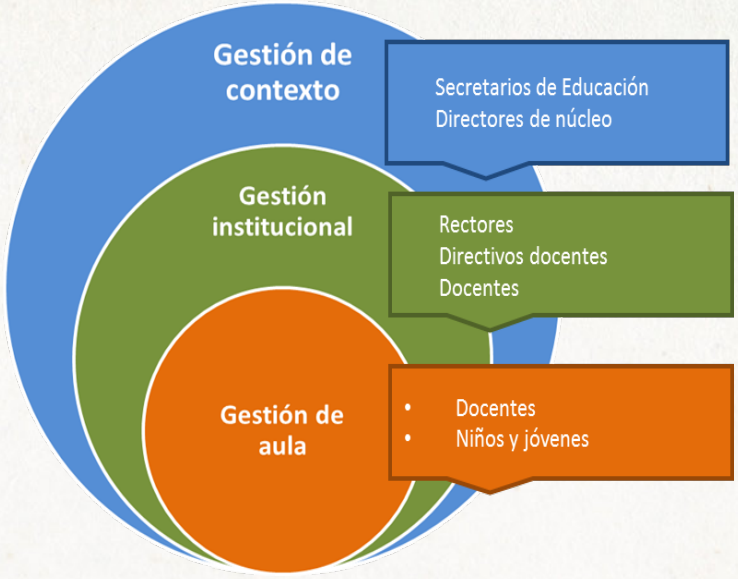
ALIANZA-FULBRIGHT MODEL 2014



Theoretical Underpinnings

Wiggins and McTighe (1993,2007,2012, 2013)
Understanding by Design

National University (2014)
Assessment Guide for the School of Education

Stecker (2005); Fuchs & Fuchs (2005)
Institutional Assessment and Evaluation

Frank (2011); Grudens-Schuck, Allen & Larson, (2004); Hotz-Clause & Jost (1995); Krueger & Casey (2009)
Qualitative Analysis for Focus Groups

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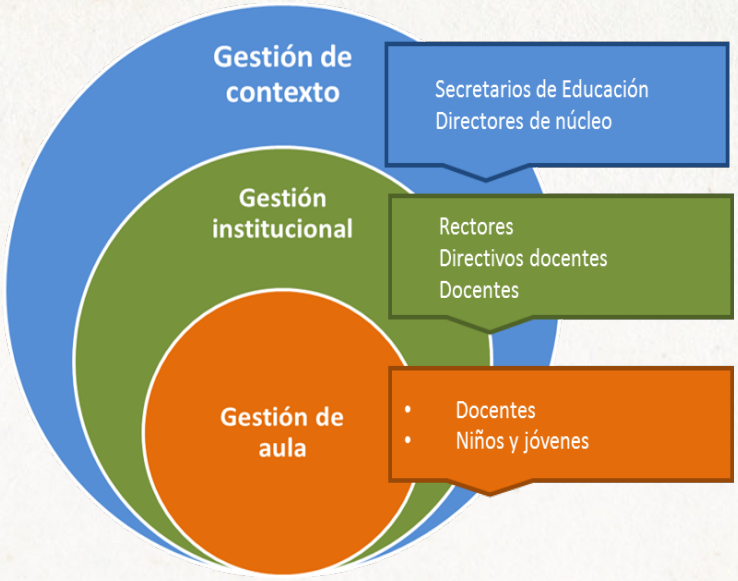
MODELO ALIANZA-FULBRIGHT 2014



Escobar. J, Bonilla-J.I (2011). GRUPOS FOCALES: UNA GUÍA CONCEPTUAL Y METODOLÓGICA [Versión electrónica], Cuadernos hispanoamericanos de psicología, Vol.9 No.1, 51-67. Recuperado el 9 de junio de 2014, de http://www.uelbosque.edu.co/

Hamui-S. A,J, Varela-R.M (2013). METODOLOGÍA DE INVESTIGACIÓN EN EDUCACIÓN MÉDICA. LA TÉCNICA DE GRUPOS FOCALES [Versión electrónica], Investigación en educación médica, 2(1), 55-60. Recuperado el 9 de junio de 2014, de http://riem.facmed.unam.mx/

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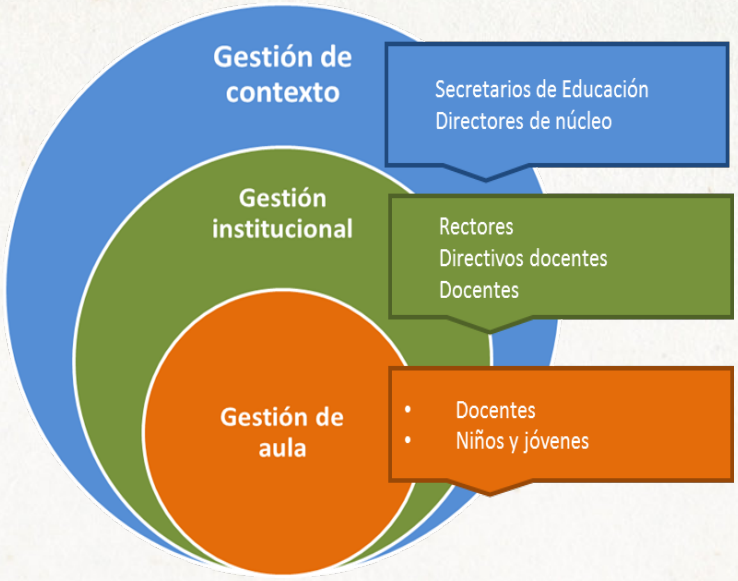
MODELO ALIANZA-FULBRIGHT 2014



- Morse, J. *Asuntos críticos de los métodos de investigación cualitativa*. Medellín: Universidad de Antioquia, Facultad de Enfermería, (2013).

- HealthCom. *Guía de habilidades para la eficaz realización de grupos focales* Washington,DC: Healthcom,1995.

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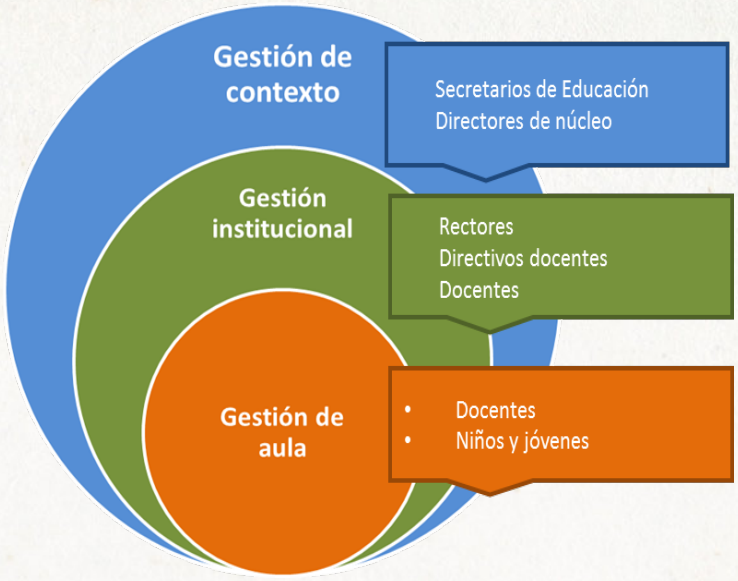
MODELO ALIANZA - FULBRIGHT



CLASSROOM MANAGEMENT LEVEL

ACTORS AND INITIATIVES

1. **STUDENTS**
   - 1.1. Experiencing LEARNING BY DOING in local context
   - 1.2. Facilitating of LEARNING BY DOING in TALLER-AULA.
2. **TEACHERS**
   - 2.1 Applying methodology of LEARNING BY DOING in local context
   - 2.2 Co-Learning Model LEARNING BY DOING in TALLER-AULA. (Pedagogical Space)
   - 2.3 Learning Model LEARNING BY DOING in JORNADAS PEDAGOGICAS (Andragogical Space)
3. **CLASSROOM FACILITATORS**
   - 3.1 Facilitating LEARNING BY DOING in TALLER-AULA
   - 3.2 Co-Learning Model LEARNING BY DOING in Sessions with Professional Team and JORNADAS PEDAGOGICAS

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Teaching Teachers Learning By Doing

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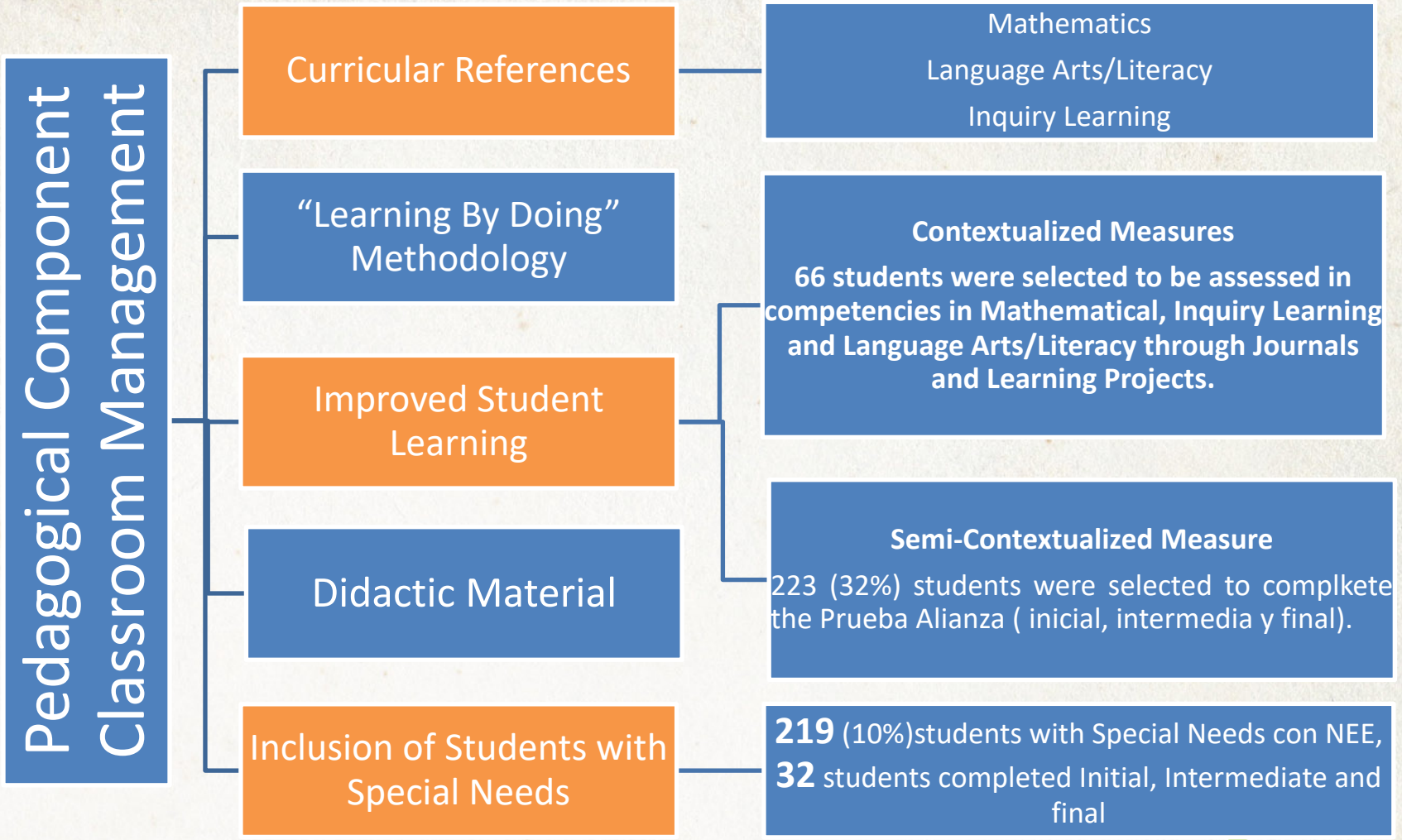
CLASROOM MANAGEMENT



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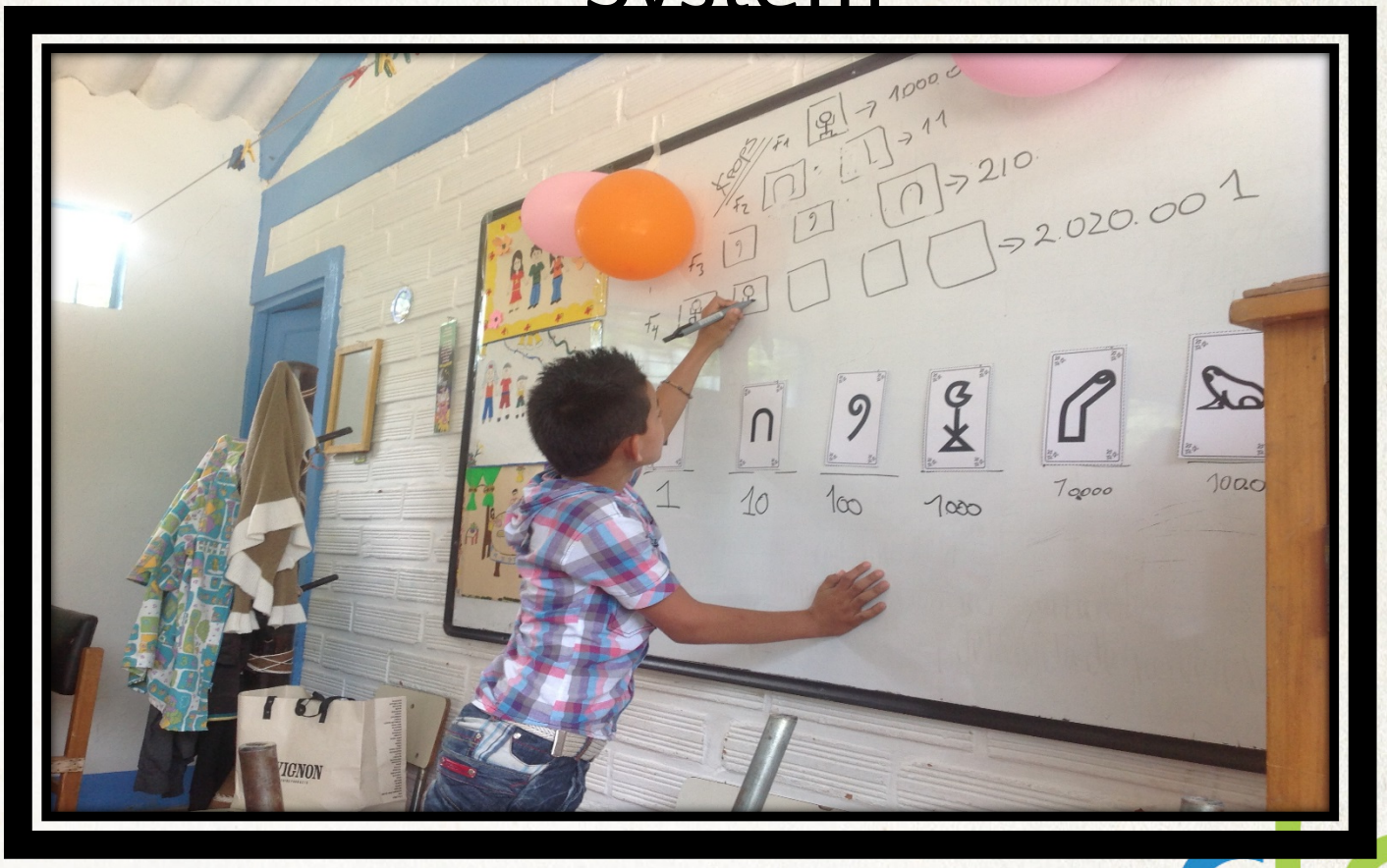
Learning the Egyptian Numeric System



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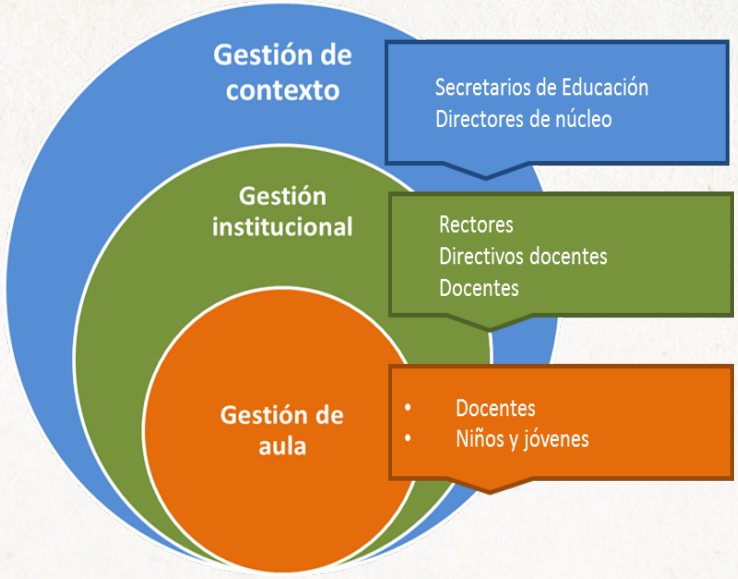
MODELO ALIANZA - FULBRIGHT

SCHOOL SITE LEVEL



ACTORS AND INITIATIVES

1. **TEACHER LEADERS**

   1.1. Apply learning for the development of a professional life project.

   1.2. Learn about SER MAS MAESTRO (Andragogical Space)

2. **PRINCIPALS AND COORDINATORS**

   2.1 Apply learning for the development of XXI Century Leaders in school sites. (Institutional Space)

   2.2 Learn about content for XXI Century Leaders (Andragogical Space).

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Mathematics Pedagogy Sessions

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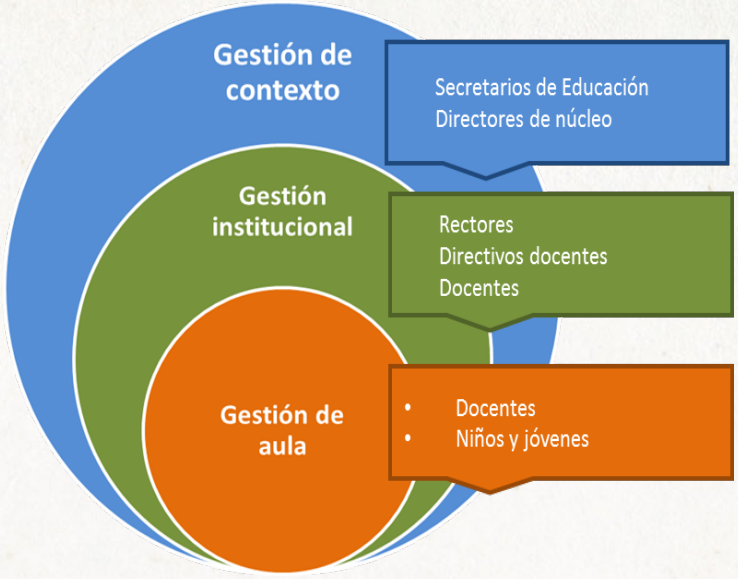
MODELO ALIANZA - FULBRIGHT



INSTITUTIONAL LEVEL

ACTORS AND INITIATIVES

1. Secretaries of Education and Regional Directors

1.1. Application of Educational Policies that promote the implementation of LEARNING BY DOING in public schools.

1.2. Collaborating and Co-Learning about Educational Policies in other municipalities that effectively implement LEARNING BY DOING in classrooms, in school sites, and in different municipalities.

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METHODOLOGY FOR DATA COLLECTION

Data Source1//
Professional Meetings with Subject Matter Teams

- a. Mathematics Strategy
- b. Language Arts Strategy
- c. Research Strategy

Data Source 2 //
Reading and Analysis of Program Documentation

- By Strategy
- By Impact Assessment Reports
- By Curricular Materials
- By Strategy Presentation

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Methodology for Data Collection (BASELINE DATA)

DATA SOURCE 3 // STRUCTURED CLINICAL VISITS

- Visits to Aulas-Taller (Ondas, Alianza) Visita al Matematicas en LA ARBOLEDA
- Visit to Launching of Ondas Ondas in ENVIGADO
- Visit to Jornadas Pedagogicas (Alianza) (Matematicas en Titiribi, Lenguaje en Tamesis, Investigacion en Tarso / Clara)
- Visit to Investigative Groups with Co-Investigators (Alianza, Ondas)
- Visit to Groups of Principals (Alianza)
- Visit to Groups of Secretaries of Education (Alianza)
- Visit to SER MAS MAESTRO (Alianza) Venezia
- Visit to XXI CENTURY LEADERS (Alianza)
- Visit to Professional Development for Facilitators in Language Arts (ALIANZA)
- Visit to Departmental Committee (ONDAS)
- Visit to Executive Board from CTA/ Allies (Executive Board) VIDEO RECORDING (Marlen)

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Methodology for Data Collection (BASELINE DATA)

DATA SOURCE 4 // Focus Groups, Semi-Structured and Informal Interviews

- Focus Group with Alianza students (La Arboleda / TARSO)
- Focus Groups with Alianza Teachers (TARSO & TAMESIS / Clara enviar
- (TITIRIBI / Marlen enviar)
- Focus Group with Alianza Principals
- Informal Interviews with groups of teachers (Entrevista con Sandra de Tarso – Marlen)
- informal interviews, informal interviews with principals and members of the Alianza team from Center of Science and Technology.
- Semi-structured interviews with Secretaries of Education
- Semi-structured interviews with members of SER MAS MAESTRO (VENEZIA / Grupo Focal Docentes)
- Informal interview with XXI Century Leaders

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RESULTS I

TECHNICAL INFORMATION ON RESULTS

UNIVERSE FOR SAMPLE	❖ Five Municipalities: Támesis, Jericó, Tarso, Venecia y Titiribí ❖ Third Grade Students were selected for Mathematics and Language Arts/Literacy ❖ Third, Fourth, Fifth Grades Students were selected for Inquiry Learning
SAMPLE FOR CONTEXTUALIZED MEASURES: **JOURNALS AND LEARNING PROJECTS**	This study was conducted with the following sample: ➢ **Inquiry Learning**: 13 Learning Projects and 13 Journals. ➢ **Language Arts/Literacy :** 50 Learning Projects y 42 Journals. ➢ **Mathematics:** 39 Learning Projects y 23 Journals
SAMPLE FOR SEMI-CONTEXTUALIZED MEASURES: **PRUEBA ALIANZA – INITIAL, INTERMEDIATE AND FINAL**	➢ This study was coNducted with the following sample: ➢ **Inquiry Learning** : 172 students ➢ **Language Arts/Literacy :** 172 students ➢ **Mathematics :** 164 students
SAMPLE FOR DECONTEXTUALIZED MEASURES: **PRUEBAS EL SABER**	This study was conducted with the following sample: ➢ Language Arts / Literacy : 224 students ➢ Mathematics : 221 students

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RESULTS II

TECHNICAL INFORMATION ON RESULTS	
SAMPLING METHODOLOGY	RANDOM SAMPLING
DATA GATHERING METHODOLOGY	❖ DIRECT COLLECTION OF DATA: Learning Projects and Journals ❖ PRUEBA ALIANZA : Initial, Intermediate and Final ❖ PRUEBA EL SABER : Initial results January 2015 (Secondary Souce)
TIME PERIOD FOR DATA COLLECTION	February 2014 – October 2014.
COMPETENCIES FOR EVALUATION	Achievement on **Interpretative, Propositve and Argumentative** Competencies is measured in all three content áreas or subject matters. **Recognizing Scientific Language** is also measured in Inquiry Learning
LEVELS OF ACHIEVEMENT	**Advanced Level** : Excellent Achievement **Satisfactory Level : Adequate Achievement** **Minimal Level** : Questions with least difficulty are met **Insufficient Level** : Questoins with least difficulty are not met

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TRIANGULATION AND RESULTS

Denzin (1970, 1978, 2010) defines the process of Triangulation by four criteria:

(a) Triangulation of Data Sources - Different Data Sources accessed over time.

(b) Triangulation of Researchers – Using research teams.

(c) Triangulation of Methods - Observation, interviews, surveys, focus groups, achievement measures, visits.

(d) Triangulation of Theories - Analysis of data sources according to different methodologies that generate different interpretations.

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TRIANGULATION OF EVALUATION DATA BY CONTENT-AREA AND BY MEASURE

INQUIRY LEARNING

Contextualized Measures: Learning Projects & Journals	Semi-Contextualized Measure: Prueba Alianza	Decontextualized Measures: Prueba EL SABER
• Inquiry Learning showed the highest performance in both Learning Projects and Journals • Inquiry Learning groups selected for the assessment had the least number of instrucments with lowest performance. • No Inquiry Learning Group exhibited Insufficient Level Performance and they had the highest levels of performance expected (Satisfactory & Advanced	• Prueba Alianza showed positive results in Inquiry Learning, even though they were lower than the results in Mathematics. • Most of the population sampled presented an expected level of achievement (65% of the student sample scored between Minimum and Advanced Levels)	• Inquiry Learning was not evaluated by PRUEBA EL SABER • Inquiry Learning has not been considered as part of the Core Curriculum

TRIANGULATION OF EVALUATION DATA BY CONTENT-AREA AND BY MEASURE

LANGUAGE ARTS/LITERACY

Contextualized Measures: Learning Projects & Journals	Semi-Contextualized Measure: Prueba Alianza	De-Contextualized Measure: Prueba EL SABER
• A large number of students scored at the Minimum Level with no students scoring in Insufficient Level. • Students assessed in this área of Language Arts and Literacy obtained better levels of achievement in their autobiographical writing tan in their journals.	• Overall the sampled population had difficutly meeting standards in this instrument. • A high number of students scored in the Insufficient Level when compared to scores in other content áreas. • An improved ability to read literally within the interpretative competency was observed as per the achievement results,.	• The results on the Prueba EL SABER in Language Arts/Literacy were better than the results in Mathematics. • A higher perentage of students scored at Satisfactory and Advanced Levels. • 50% of the sampled population scored at the Satisfactory ad Advanced Levels. (In a range between 45% and 80%)

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TRIANGULATION OF EVALUATION DATA BY CONTENT-AREA AND BY MEASURE

MATHEMATICS

Contextualized Measures: Learning Projects & Journals

- Learning Projects and Journals in Mathematics showed the lowest levels of academic achievement of all three content areas.
- Within this subject matter, Learning Projects and Journals were scored at the Insufficient Level.
- Most of the sampled population scored (70% and above) scored above the Minimum Level of academic performance for both Learning Projects and Journals.

Semi-Contextualized Measure: Prueba Alianza

- The students in the sample showed the highest performnace for Mathematics in this Prueba ALIANZA.
- 80% of the student population reached above Satisfactory and Advanced Levels of performance.
- The highest performance results were related to the interpretative and Propositive Competencies within the Geometric and Metric component.

Decontextualized Measure: Pueba EL SABER

- Between 34% and 76% of the sampled population scored at the Satisfactory and Advanced Levels of achievement in this PRUEBA EL SABER.
- Even though the resuts of the measures were positive in some muncipalities, overall the achievement of the students in Mathematics was lower when compared with the results in Language Arts/Literacy for the PRUEBA EL SABER.

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TRIANGULATION OF EVALUATION DATA BY CONTENT-AREA AND BY MEASURE

	CONTEXTUALIZED MEASURES	SEMI- CONTEXTUALIZED MEASURES	DECONTEXTUALIZED MEASURES
MATHEMATICS	Mathematics was the lowest performing subject matter when compared to the other two for this measure.	Mathematics had the highest scores of all three subject matters on this measure.	Mathematics scores were lower than Language Arts/Literacy.
LANGUAGE ARTS	Language Arts scores were lower than Inquiry Learning and higher than Mathematics.	Language Arts/Literacy was the lowest performing subject matter when compared to the other two for this measure.	Language Arts/Literacy had the highest scores for this measure.
INQUIRY LEARNING	Inquiry Learning had the highest scores of all three subject matters on this measure.	Inquiry Learning scores were lower than Mathematics but higher than Language Arts/Literacy.	This subject matter was not measured by this measure.

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Fulbrighter Learning from Children

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CONCLUSIONS FOR CONTEXTUALIZED MEASURES: LEARNING PROJECTS AND JOURNALS

By Measure:

- New measures to assess academic achievement.
- New measures to assess the effectiveness of ***Learning By Doing***
- Holistic Analysis of Expressions of Student Learning (Critical and Divergent Thinking)
- Holisitc Analysis of Reading and Writing Expressions (Literal and Inferential and Written Expression with Purpose and Audience)
- High Cognitivo and Linguistic Challenges

By Subject Matter and By Municipality

- Inquiry Learning had the highest academic achievement when compared to Language and Mathematics
- Jerico had the highest academic achievement across all three areas.

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CONCLUSIONS FOR SEMI-CONTEXTUALIZED MEASURES: PRUEBA ALIANZA

By Measure:

- Measures designed by the Alianza Team (CTA)
- Measures designed to measure application of knowledge
- Multiple Choice Questions
- Quasi – situational analysis of learning application.
- Cognitivo and Linguistic Challenges

By Subject-Matter and By Municipality:

- Mathematics had the highest academic achievement when compared with the other two.
- Tamesis has the highest academic achievement in this measure.

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CONCLUSIONS FOR DECONTEXTUALIZED MEASURES: PRUEBA EL SABER

By Measure:

- ❖ Norm-Referenced National Test
- ❖ Measure designed to assess consolidated knowledge
- ❖ Multiple Choice Questions
- ❖ Non-situational analysis of applied learning
- ❖ High Cognitive and Linguistic Challenges

By Subject Matter and By Municipality:

- ❖ Jerico had the highest academic achievement across all three areas

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SHORT-TERM AND LONG-TERM IMPLEMENTATION INITIATIVES

- Work focused on teachers will be strengthened
- Contextualized measures will continue to be used and refined in the future
- Semi-Contextualized Measure Design will be refined in the future based on findings.
- School sites located in Titiribi and Venecia will experience new plans for improvement in the preparation of teachers and their implementation of *Learning by Doing*.
- Lessons learned will be implemented in the future.

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SHORT-TERM AND LONG-TERM IMPLEMENTATION INITIATIVES

- Differentiated work will continue to address the needs of Students with Special Needs.
- Teachers will be at the center of organizing the Writing Process by designing their own learning guides.
- Teachers will be at the center of organizing the Reading Process at the literal and inferential levels.
- Products of learning will become more visible for all involved – students, teachers and parents.

ALIANZA EVALUATION STRATEGIC TEAM

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~~ALIANZA TEAM~~

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