



ATLAS

Active Teaching and Learning Approaches in Schools

Report of the pilot conducted in Zambia 2008–2009
International Reading Association and ChildFund International









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The International Reading Association (IRA) is a professional membership organization dedicated to promoting high levels of literacy for all. With more than 300,000 affiliated members in more than 80 countries worldwide, IRA is the largest network of reformminded educators in the world. IRA implements high-quality professional development, publications, advocacy and research activities supporting schools, universities, government agencies, community-based programs, and local professional associations in world regions, including special projects in economically developing countries. For more information on IRA, please see our Web site: www.reading.org.

ChildFund International exists to help deprived, excluded and vulnerable children have the capacity to become young adults, parents and leaders who bring lasting and positive change in their communities. ChildFund promotes societies whose individuals and institutions participate in valuing, protecting and advancing the worth and rights of children. For more information, visit our Web site: www.ChildFund.org.





Introduction

This document is organized according to ChildFund's Documentation Guidelines following the CARES documentation framework (Context — Action — Results/Recommendations — Efficiency — and Skills):

Context: The background, problems, goal/objectives, strategic significance.

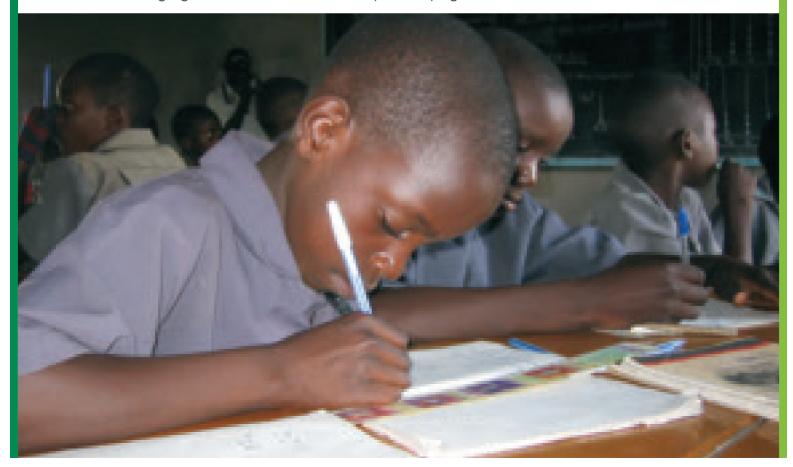
Actions: The logic, sequence and actionable steps to implement and replicate.

Results (and Recommendations): Empirical results (evidence, statistics, data, testimonials, etc.) as well as the more creative aspects (drawings, poems, etc.) in order to reference successes and challenges.

Efficiency: Costs to implement, monitor and evaluate. Discusses the efficiency and the practicality to determine the relevance of ATLAS programs and operations.

Skills: References the competencies, skills and staffing needed to implement this effort; lessons learned to overcome potential challenges.

At the top of each page is a tab indicating the section of the CARES framework to which the content is related. For example, all pages dealing with the context (strategy, quality education, background, etc.) will have "Context" highlighted in the banner at the top of the page.



Context

ince the signing of the Declaration at the UN Millennium Summit in 2000, Zambia's education system, like that of many African countries, has undergone tremendous changes. Several achievements in access, community participation, policy and structure have been realized. The 1999-2000 Basic Education Sub-Sector Investment Program (BESSIP), the 2002-2004 Poverty Reduction Strategy Paper (PRSP), the 2002-2005 Transitional National Development Plan (TNDP) and the draft 2008-2010 National Implementation Framework (NIF) all point to a significant and steady rise in Zambia's net school enrollment rate. This indicates advancements made in the rehabilitation and construction of classrooms and teacher housing — a major incentive that retains teachers in rural areas.

Despite the success of those efforts, key indicators of the quality of education in Zambia point out serious problems. Evidence shows that in many cases Zambian schools lack the capacity to absorb the increasing numbers of enrolled students after adopting a policy of free primary education in 2002. This has led to severe overcrowding, particularly in the early grades, along with poor academic achievement. Academic achievement levels remain low, with mean scores in English and mathematics for Grade Five at 33% and 34% respectively.¹

According to the Zambian Ministry of Education, the major challenges to basic education include a need to shift additional qualified teachers to the primary school years. This will improve the quality, relevance and delivery of the curriculum. Also needed are more teaching and learning materials to accommodate an increased enrollment and improve academic achievement.² A recent study commissioned by ChildFund Zambia in 35 schools within three districts showed a lack of classroom space with schools implementing double and triple shifts to accommodate the students. This practice also led to reduced instructional time.3

Targeted Goals

ChildFund's work in education has established three key goals: access with equity, quality in learning experiences, and capacity building for sustainability. Over the last 26 years, ChildFund Zambia has focused education program efforts on expanding and improving school infrastructure, facilitating access to school, and supporting capacity building in communities through a Participatory School Governance process. While addressing these issues as well as sustainable school development, ChildFund Zambia is well positioned to address quality in learning experiences, starting with systematic teacher training and support as well as children's participation.

This enabled a joint pilot venture — between ChildFund New Zealand, ChildFund Zambia, ChildFund International and the International Reading Association — which was conducted from 2008-2009 in rural

Zambia under the name Active Teaching and Learning Approaches in Schools (ATLAS). The overall purpose of the ATLAS program was to enhance the quality of education in schools in the Mumbwa District. The pilot program addressed the quality of teaching and learning through the effective use of active, participatory, child-centered teaching and learning methodologies. In order to support behavior change at the classroom level, the project focused primarily on providing participating teachers with the opportunity to enter and engage in teacher dialogue, to participate in teacher training sessions and to receive classroom coaching in an ongoing effort to implement best classroom practices.

We are pleased to convey in this report that the pilot project did establish successful change. We hope that the accompanying strategies and approaches will be useful in improving the quality of primary education throughout all African countries.

Ministry of Education (2007), Fifth National Development Plan: National Implementation Framework 2008-2010, Draft Final Report. Government of the Republic of Zambia, Lusaka, August 2007, pp. 14, 38.

³J. R. Luangala, Ph.D. (2009), Baseline Survey of Selected Basic Schools in the Central and Lusaka Provinces of Zambia.



1: Project overview

The ATLAS professional development program is designed to improve teacher quality in the classroom leading to greater student achievement. In effect, what constitutes quality professional development is not only the acquisition of knowledge and new skills (what the teacher should teach), but also an understanding of the teacher's new role (how to deliver the content) and expectations that accompany it (teacher attitudes and beliefs). Therefore, the ATLAS pilot focused on three objectives:

- Improve the technical capacities of teachers.
- Systematically increase the use of active, participatory, child-friendly, research-based classroom practices.
- Increase teacher motivation and cross-cultural understanding through global exchange and teacher networks.

2: Strategy

Experience shows that teachers often teach the way they were taught. In the case of Zambia, this often equates to teacher-centered education methods. Experience and research demonstrate that teaching behavior can change through a combination of direct instruction, observation, modeling and sharing among peers⁴. ChildFund education specialists found through a study of child friendly schools in Ecuador, Honduras and the Philippines, that improved materials and continual and intensive technical training, coaching and supervision were essential to implement child-centered classroom practices. In a similar project involving IRA and United Nations Educational, Scientific and Cultural Organization (UNESCO), using the Diagnostic Teaching for Primary Level Schools' program⁵ in Tanzania, its direct instruction, observation and modeling activity improved the knowledge and skills of primary school teachers.

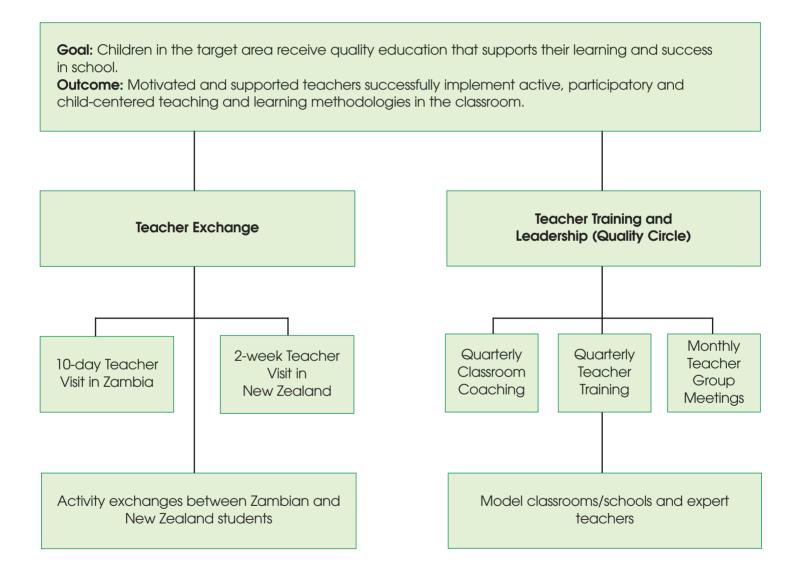
For these reasons, the ATLAS program focuses on helping teachers develop and use materials to learn, observe and integrate knowledge and practice. It also helps them recognize and diagnose problems and apply alternative solutions through an iterative process that includes continual supervision, feedback and coaching.



⁴Pearson, P. D., & and Ghallager, M. (1983). The instruction of reading comprehension. *Contemporary Educational Psychology*, 8, 317-344. ⁵Capacity Building for Literacy Policy Development in Tanzania (2007). *Technical Report of Activities Submitted*. International Reading Association, Washington, DC.

It is vital when working to improve the quality of education that we ensure teachers are recognized and respected. Research demonstrates that improving and recognizing teacher quality correlates with improved student learning⁶.

Conceptual Framework of the ATLAS Program



Actions

1. Improving the technical capacities of teachers through workshop training

Through the ATLAS program, teachers from three rural schools in Zambia received intensive, continual training over three school terms to successfully apply child-friendly teaching methodologies. A major focus of the training sessions was on developing age-appropriate, learner-centered practices for grades 1-9. Workshop training was divided into three modules. Each module focused on providing teachers with opportunities to learn and share their knowledge and understanding of appropriate and effective classroom practices. Woven throughout the training sessions were appropriate forms of assessment along with instruction on active, participatory and child-centered teaching and learning methods. More specifically, the objectives of the ATLAS training program were to help teachers:

- Acquire a set of easy-to-use teaching techniques that are content-relevant, participatory and child-centered:
- Develop an understanding of the connection between instruction and assessment;
- Establish various methods of monitoring student learning;
- Strengthen the ability to plan and deliver effective lessons;
- Develop an understanding of appropriate classroom management strategies; and
- Implement a diagnostic teaching approach to reflect on their understanding and to support others as teacher leaders.

The training program involves:

- Participatory demonstration of diagnostic teaching techniques within local context;
- Guided discussion on procedures and application;
- Small and large group practice;
- Guided practice in applying specific techniques within local context;
- Classroom implementation; and
- Opportunities for reflection, self-evaluation, peer-evaluation, and formal observation.

An accompanying training manual for strategies and techniques is available for workshop training. In addition, e-learning modules are available.

2. Systematically increasing the use of active, participatory, child-friendly, research-based classroom practices

Another key aspect to training success lies in giving teachers the opportunity to participate meaningfully in processes that recognize and value their intellectual capacity, experience and resourcefulness. When teachers themselves are purposefully involved in the process of improving teaching and learning conditions, they are generally more motivated and willing to put what they learn into practice. Thus, in addition to providing continual in-service training, the ATLAS program also supports teacher leaders and their school managers to form a Teacher Quality Circle (teachers' discussion group) that meets monthly to encourage ongoing professional development. Teachers meet and share best practices as well as problem solve around classroom issues that result from implementing what they have learned.

Also, the expectation is that the Teacher Leaders are responsible for step-down training for non-trained teachers. This supports implementation of child-friendly model schools. Other Teacher Leaders are to be established at various sites to facilitate regional training sessions. In the pilot, 56 additional teachers received step-down training.

In the pilot, teacher group meetings and the step-down training sessions were supported by coaching and mentoring from the facilitator. However, it was noted that local leaders needed to sustain the momentum gained after training, coaching and mentoring took place. Thus, an additional leadership training workshop was established to support school management and local project staff (Zambian Ministry of Education, Mumbwa Child Development Agency) in providing ongoing contextual support and in taking the vision forward. The leadership training also focused on providing teacher leaders with skills in facilitating workshops.

3. Increasing teacher motivation and cross-cultural understanding through global exchange and teacher networks

Bringing teachers and students together to achieve cross-cultural understanding, professional motivation, skills development and improvements in the quality of education is key to ATLAS. In support of this a two-way exchange between Zambian and New Zealand teachers was organized. Seven teachers from New Zealand visited teachers in Zambia and three Zambian teachers visited schools in New Zealand. The 10-day exchanges helped teachers reflect on teaching approaches and develop ATLAS work plans. The intent of the exchange was also to establish student and classroom links between Zambia and New Zealand.

In an effort to support opportunities for teachers to attend and share information at national, regional or international education conferences, a group of four teachers attended the IRA 6th Pan African Reading for

All Conference held in Tanzania in August 2009. The opportunity helped teachers consolidate their learning and create additional teacher networks in the region.

In Summary, the Main Program Activities are:

- Three quarterly teacher training sessions for 12 Zambian teachers, followed by in-class coaching and supervision before each subsequent training;
- Step-down training for 12 Zambian teachers at each of the 3 Zambian schools;
- Monthly Teacher Quality Circle (TQC) meetings for 12 Zambian teachers;
- Identification, provision, and use of essential teaching and learning materials for three Zambian schools;
- Two-way teacher exchange and dialogue between Zambian and New Zealand teachers;
- Biannual activity exchanges between Zambian and New Zealand classes;
- Conference participation and sharing.



Target Population

Through professional development, activity support and teacher exchanges, ATLAS benefited a total of five schools: three directly (Mukupi, Nangoma and Shimbizhi), and two indirectly (Kalilwe and Nakatete); 36 teachers; and 2,637 students.

Table 1: School Information

Number of Teachers						Number of Students					
School	Certificate I		Dip	loma	Studying for						Grade
	1°	2 °	1°	2 °	Diploma	Degree	Total	Boys	Girls	Total	Levels
Mukupi	4	0	1	0	0	0	5	300	305	605	1-9
Nangoma	9	0	0	5	0	0	14	422	394	816	1-9
Shimbizhi	3	0	4	3	3	4	17	596	620	1216	1-9
Total					36			2637			

Critical to the success of the program, the selected pilot site of Mumbwa District had the support of schools and communities, as well as district and regional Ministry of Education officials.

Originally 12 teacher leaders from three schools were selected to be involved in the project from the Mumbwa District in Zambia. These three schools were Mukupi, Nangoma and Shimbizhi. In addition to three teacher leaders being selected from each school, the school principal was invited to attend. In time, the following schools were involved in the project:

Mukupi — Mumbwa District Nangoma — Mumbwa District Shimbizhi — Mumbwa District Kalilwe Basic — Mumbwa District Nakatete Basic — Kafue District

Support staff from ChildFund Zambia, the local Mumbwa Child Development Agency staff and District Resource Center staff, including members of the local Ministry of Education, attended training sessions. On average, 26 participants attended the three workshop trainings. See appendices for a complete listing of participants.

Workshop Training

Workshop Training, including Leadership Training, took place over the course of one year--the first workshop training in August 2008, the second in February 2009. Leadership Training took place in April 2009 and the final workshop training was in August 2009. Interspersed in the training were coaching and mentoring of step-down training and in-class teacher observations.

School Visitations

A total of five schools were visited and 16 teachers observed by the facilitator. Of the classes observed: 4/16 were lower primary; 2/16 were upper primary; and 10/16 were junior high. Class sizes ranged from 26 up to 100+. The facilitator used an observation guide that focused on: student engagement, curriculum alignment, instructional teaching practices, classroom environment and classroom culture.

Quality Circle - Teacher Group Meetings (TGM)

A Teacher Group Meeting was modeled at each of the schools using a recurring theme that presented itself at the school site. The TGM was attended by administrative staff, ChildFund International staff, IRA staff and ministry officials. The goal of the TGM is to help teachers develop, plan and improve on their teaching and learning in the classroom. At the core, the TGM model has feedback and reflective conversations. The average time for the TGM was approximately 45 minutes.

The training manual contains a description of a strategy to engage teachers in reflective questions and conversations. See appendices for a sample of a TGM held by the facilitator.

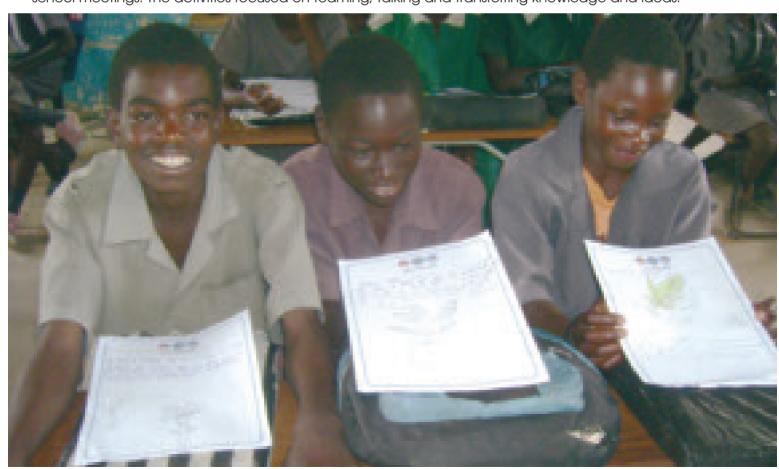
Leadership Training

The leadership training for Ministry Officials, school managers and ChildFund staff, focused on three aspects of the change process: initiating, implementing, and institutionalizing the change. Participants were engaged in various activities that highlighted their role in taking the ATLAS vision forward.

The second and third day of training was geared to the role of the teacher-leaders. These sessions focused on: achieving successful step-down training, providing on-site coaching and mentoring, facilitating school-group meetings, and managing and facilitating resource development and acquisitions.

Participants were assembled by school groups or step-down training groups. For the step-down training, participants examined appropriate steps in presenting the professional development training and were to revisit how this links to lessons in the training manuals: preparation before, during and after the lesson. They were also encouraged to reflect on the efficacy of the training and were presented with tools to assess this.

In school groups, participants examined their role in coaching professional learning and facilitating school meetings. The activities focused on teaming, talking and transferring knowledge and ideas.



Step-Down Training

The first step-down training occurred after initial training in August 2008. The second step-down training took place after leadership training in April 2009. The process moved slowly to allow time for teacher participants to consolidate their understanding of the course content.

Teacher Exchanges

During project implementation, two teacher exchange visits were conducted. The first one took place in April 2009 with seven teachers from New Zealand visiting Zambia; in August of the same year three Zambian teachers visited New Zealand. The second exchange visit took place in July 2009 with nine New Zealand Teachers visiting Zambia; in September of the same year four Zambian teachers visited New Zealand.

The New Zealand and the Zambian teachers spent the time observing classes, planning and teaching lessons together. The purpose of the visits was to provide an opportunity for teachers to share and learn teaching methodologies thereby improving educational quality.

Student Topic Exchange

During project implementation, Zambian and New Zealand students exchanged topics on sports and music. Zambian schools that participated in these student topic exchanges included: Mukupi, Nangoma, Shimbizhi, Mutombe, Mwenbezhi, Kawama and Mwiimbi. Through the topics, students were able to learn and share knowledge and experiences. For example, they learned that in some countries, certain sports are more common than others. New Zealand is well known for sports such as rugby; in Zambia, soccer is popular. Regarding music, students exchanged knowledge on topics such as why singing is important. Most students pointed out that singing is often used to express themselves.

Conference Promotes Understanding

During the project implementation, four teachers from Mukupi, Nangoma and Shimbizhi Basic Schools attended the 6th Pan African Conference on Reading for All in Tanzania, organized by the International Reading Association. The theme of the conference, which took place from August 10-14, 2009, was "Literacy for Community Based Socioeconomic Transformation and Development." The overall goal of the conference was to create a platform for literacy professionals to share their experiences in literacy research and instruction in the classroom and in the communities. The task was to identify challenges faced and strategies through which such challenges can be surmounted to improve the delivery of literacy services for sustainable socio-economic transformation and improve people's livelihoods. This conference attracted about 600 delegates from 27 countries, the majority from within Africa. Other countries included the USA, Canada, Germany, Australia and New 7ealand.



Results

1. Improving the technical capacities of teachers through workshop training, coaching and mentoring

Observation of Teaching Styles

Observation of lessons focused on four specific areas: Student Engagement, Instructional Teaching Practices, Classroom Environment, and Classroom Culture. In terms of **student engagement**, observations included whether students participated in the lesson, asked questions, were motivated to learn or were on task. In addition, observations were noted on **instructional teaching practices** — were the objectives of the lesson clear, was the lesson well-prepared, did teacher modeling occur with guided practice and independent/group activity, and was there evidence of questioning and/or ongoing assessment. Notes were taken as to whether the classroom environment had displays of students' work, instructional posters and whether the space was organized in a manner that was conducive to learning. Of other importance was **classroom culture** — was there a friendly atmosphere, were routines established, were students encouraged and praised and did an interactive environment exist.

Table 2: Mean Ratinas on Observations of Lessons

Tuble 2. Freuit Kuttings on Observations of Lessons						
2008	2009	Difference				
2.05	2.50	0.45				
0.00	0.17	0.17				
1.85	2.25	0.40				
1.80	2.46	0.66				
2.20	2.67	0.47				
1.80	2.71	0.91				
2.20	2.17	-0.03				
2.00	2.25	0.25				
2.45	2.29	-0.16				
2.10	2.54	0.44				
1.70	2.79	1.09				
2.80	2.79	-0.01				
2.35	2.68	0.33				
1.10	2.29	1.19				
0.15	0.04	-0.11				
0.50	0.79	0.29				
11.00	11.88	0.88				
2.40	2.46	0.06				
2.00	2.54	0.54				
1.50	2.21	0.71				
1.65	2.21	0.56				
	2.05 0.00 1.85 1.80 2.20 1.80 2.20 2.00 2.45 2.10 1.70 2.80 2.35 1.10 0.15 0.50 11.00	2008 2009 2.05 2.50 0.00 0.17 1.85 2.25 1.80 2.46 2.20 2.67 1.80 2.71 2.20 2.17 2.00 2.25 2.45 2.29 2.10 2.54 1.70 2.79 2.80 2.79 2.35 2.68 1.10 2.29 0.15 0.04 0.50 0.79 11.00 11.88 2.40 2.46 2.00 2.54 1.50 2.21				

On 17 of the 21 criteria (chart previous page), the average ratings have increased, which is encouraging. The other four changes were of negligible magnitude. Twelve of these changes can be described as significant, i.e., not due to chance, or measurement error. The evaluator judged any difference over 0.30 as "significant." To estimate this threshold, he used the Effect Size statistic. (The Effect Size is estimated by dividing the difference between the means by the standard deviations (SDs)). Most SDs in this analysis clustered round 0.60. Therefore, any difference greater than 0.30 would yield an Effect Size of 0.50, a conventional level for judging it as significant).

Are there gains in the instructional criteria related to the ATLAS program aims and efforts? Generally the answer is yes. Comparisons between pre (2008) and post (2009) observations, show that the ATLAS teachers were planning better, clarifying their objectives, praising more, setting up better group activities, organizing their classrooms more effectively, and creating more interactive classes — all direct aims of ATLAS training. Furthermore, the lessons showed greater variety, and their classrooms were more friendly than they had been before the project started, judging by the ratings made in the non-ATLAS school in the baseline study.

As for students, they appear to be responding better. Comparison between the pre and post observations demonstrated that students were more on task, more motivated, and participated more in lessons. In addition, the observers noted that students were more confident in their presentations to the class.

Although there were still few displays of student work and/or instructional posters on the wall, making the classrooms unattractive learning centers, some of these problems were beyond the teacher's control. Teachers are required to share classrooms and lack storage space and resources.

Table 3: Summary of Outcomes

Outcome Area	Criteria	Criteria with Positive Outcomes			
Student engagement	4	4			
Instructional teaching practices	10	7			
Classroom environment	3	2			
Classroom culture	4	4			
Note: 17 of 21 targeted outcomes had positive gains					

Of significant interest is a comparison of lessons between non ATLAS-trained teachers and teachers trained in the ATLAS program.8

We watched two lessons on the subject of "money." One teacher who had not participated in ATLAS, started by asking her class, "What is money?" She asked several times, without any response even though most students knew a lot about money. Eventually she gave them the answer she expected. She brought no money into the class to make the lesson more realistic.

She taught the class how to convert Kwacha into coins. She gave no reasons for this exercise, although coins are rarely used today. She set a group exercise before giving enough examples to show students how to do this. Each group had only one task, Only a minority of students participated. Although she had many virtues, she could have made the lesson more productive and interesting.

By contrast, another teacher who participated in ATLAS set up a real-life situation. "What do you need to take with you if your mother sends you to the market to buy fruit?" Many hands went up, and the teacher looked for those who did not have an answer to see why. He took an "Every Student Response" approach. He waved Kwacha notes around and distributed coins to make the lesson more realistic. He had fun with the class and had the students' full attention throughout. He set jigsaw group assignments and finished by pinning up a poster he had prepared with a list of 10 statements about money — some true, some false. All students had to respond to each one. Much was learned in this lesson about the benefits of money, and it appeared that students wanted to study it further.

The contrast between these two lessons indicated obvious benefits from the ATLAS program.

10

Knowledge of Content

Eighteen teachers were given a post-assessment task after the third training. Questions focused their understanding of assessment and instruction in participatory methods acquired through training.

- 1. Teachers were asked to name the phases of instruction and what should happen at each phase; 18/18 identified the three phases of instruction and 17/18 articulated what could happen at each phase.
- 2. 14/18 of the participants suggested that the purpose of grouping was for student engagement; 5/18 for participation. 10/18 mentioned using the jigsaw as a strategy to engage students in groups, and 6/18 suggested using the fishbowl strategy.
- 3. 14/18 could define the purpose of assessment and where it fits in the teaching and learning process; 4/18 mentioned that it comes only at the end of a lesson.
- 4. In regard to material development/acquisition of resources, 17/18 mentioned accessing local materials and 2/18 suggested having a Teacher Group Meeting to brainstorm and prioritize purchases.
- 5. 18/18 listed the phases of workshop presentations.

Based on the post assessment task, it is safe to say that teacher leaders understood the "content" of training.

2. Systematically increasing the use of active, participatory, child-friendly, research-based classroom practices

The ATLAS program has tremendous potential in helping African countries address teaching and learning issues in the classroom. Students who benefited from the trained ATLAS teachers, suggest that their classrooms are more welcoming, that they work in groups more often, and that they are encouraged to participate in class more. Teachers and school managers are consistently very positive about the impact of ATLAS, and many have expressed their confidence that the program could be extended satisfactorily. Indeed, important trends that came out of the data collection of ATLAS-trained teachers include:

- There was a large and encouraging increase in the amount of time teachers claim to be spending on interacting with their groups during the lesson. This is a time when much productive teaching is possible. It was not a marked feature of their baseline practices in 2008.
- There was an increase in the amount of time students take to present their group conclusions to the class, probably because of the greater use of different tasks allocated to the groups. In 2008, many teachers assigned the same task to all their groups, resulting in somewhat monotonous presentations and loss of interest.
- More time was spent using audiovisual aids. Many teachers were observed making good use of local materials to bring their lessons to life.
- Teachers expressed the view that they are more confident now about teaching large classes and thinking up ways to motivate their students.
- In 2008, many teachers thought that "most of what students learn, they get from their teachers." There was a marked drop in this belief, which is pleasing. Apparently, students are now learning more from each other in their groups.

The ultimate goal of teacher professional development programs is increased student achievement. As mentioned above, due to time constraints, ATLAS did not focus on measuring student achievement. However, we are optimistic that improvements in student achievement will ensue as trained teachers enhance their classroom practices. In turn, increased student achievement is quite likely to further motivate teachers. Participating teachers have been provided with a "tool kit" of strategies to effectively address the challenges they face in the classroom. They have been inspired and supported in their learning. We are encouraged that the ATLAS program contains essential components to support improved teaching and learning.

The two most important factors observed in step-down training related to course content and logistics. It is imperative that teachers have mastered the "what" and "how" of training. It is also important to logistically schedule training in a location and time suitable to the participants.

Leadership Training

Leadership training proved to be very useful for the teacher leaders. They were reflective on reasons why professional development fails and on what makes good professional development. Based on observations and feedback, teacher-leaders are taking their role seriously and have been empowered by the ATLAS training project.

Teacher-leaders were thoughtful in preparing for the step-down training. However, based on in-class observation, there still is a need to fully prepare for step-down training sessions. Presentations had "gaps," particularly in the order of presentation of the concepts (the "what" and the "why") based on the training modules. Teacher-leaders have a very clear understanding of what could be achieved at the school level, but questions were raised around their role in the neighboring schools and districts.

3. Increasing teacher motivation and cross-cultural understanding through global exchanges and networks

Increasing Teacher Attitudes and Motivation

Based on survey questionnaires between 2008 and 2009, there are several areas where a change in teachers' opinions and attitudes occurred. On questions relating to the culture of their schools, the 2009 survey produced a significant increase in the number of teachers who thought that students learn a lot at this school. On general teaching issues — more teachers than last year thought that students should set their own goals and fewer felt that the students' education depends only on the teacher rather than a peer group or other sources. Such changes are also positive indicators for ATLAS training.



On class time allocations, the only important shift occurred in the amount of time teachers assigned to group work. This is a tremendous change, and it suggests that teachers are attempting to use this time profitably to instruct and detect problems. Certainly, this is a good sign.

Regarding teachers' confidence in handling different instructional situations, the only shifts occurred in large class settings, which was a key objective of ATLAS training.

The key researcher found that teachers and the school manager are consistently very positive about the impact of ATLAS, and many have expressed their confidence that the program could be extended satisfactorily. They have been impressed with the organization of the program and the enthusiasm and resourcefulness of the IRA trainer. The teachers have learned many new teaching techniques from her workshops and school visits.

Most teachers also said that they enjoy teaching more this year. They all claimed that their school was a friendlier place this year. Our observational evidence showed that they are using praise more liberally, students seem more highly motivated, and are more often "on task." Many teachers also claim their students are expressing themselves more freely.

When asked what aspect of their teaching they thought had changed for the better, they made the strongest claim for: 1) the way students ask questions in class; 2) the way they make assessments of the students' work; and 3) the way they conduct group work.

Teacher Exchanges and Networks

The teacher exchange visit provided an opportunity for teachers from both countries to interact and share teaching experiences. The visits also afforded them a chance to learn about the education systems in each other's countries. The exchange also helped promote cultural exchange and understanding.

There is little doubt that the impact of the visits by New Zealand teachers has been productive in assisting teachers to plan and conduct more interesting lessons. This was obvious in both the 2008 visit and in comparisons with the baseline study.

Participation in 6th Pan African Conference

At the conference four Zambian teachers presented the ATLAS Project with the guidance of Phyllis Hildebrandt, the IRA trainer. Sharing the best practices of the project was well received by a number of participants. Many asked questions about the project, and others remarked that it seemed like a good initiative, especially the teacher exchange visits. The presentation helped instill an interest in the Zambian teachers to affiliate themselves with the International Reading Association by becoming members.



Efficiency/Costs

1. Overall effects

The overall impression gained from the data collected in the ATLAS pilot is certainly positive. Evidence collected from observing lessons and analyzing questionnaires parallel the information gathered from teachers indicating that the training was effective, "creating more active, participatory, child-friendly classrooms."

In his initial report, the researcher made seven recommendations for themes to be included in the future ATLAS training. These included: **more assistance in large-class teaching**; **more productive group work**; and **increased reading resources**. Two themes have been effectively addressed in that teachers have learned new techniques for large-class teaching, and students are more active in group work than before.

Although there were overall attempts to make the lessons participatory, many lessons observed were still "passive" regarding student engagement. Other observations found that lessons continue to be teacher-led, resulting in teachers doing a lot of the work. Discussions with teachers encouraged developing strategies to lead lessons that involve students in decision-making and in the assessment process. For example: many of the large-class activities engaged students in group work, but due to the larger class size, not all students were on task or engaged in the activity. Factors that affect student engagement and interaction include: classes that are too big; minimal resources; and poor classroom management and routines. This issue should be closely monitored as the ATLAS program is replicated.

Teachers must be commended on the lessons that were prepared for observation. All lessons observed contain clear Before-During-After phases of a lesson. In the before stage of the lesson, teachers used many great strategies to engage the students. During the lessons, more emphasis should be placed on providing guided practice and differentiating levels of acquiring knowledge. The large class sizes presents a challenge, particularly leading to consolidation of knowledge in the after phase of the lesson. Program planners and implementers will need to adjust the program to their local context.

Step-Down Training

The step-down training seems to have made some impact on other schools. The researcher was told that Mutombe School teachers had been sufficiently impressed with their extension training that they motivated their students to set up an ATLAS Club in their school, where they addressed issues about learning outside the classroom. There may well be other offshoots of this nature, yet to be documented.

Consideration in step-down training is that facilitators will need to model the "range of applicability" of the strategies that are included in the manual. Not all strategies are applicable to all levels in schools. Some are more appropriate than others. There is a also a need to monitor demonstration lesson flow when training teacher-leaders. Feedback is critical to ensuring that appropriate teaching demonstrations take place, particularly in the cascade model of training teacher-leaders. To avoid problems, it is highly recommended that teacher-leaders receive feedback immediately from a coach when going into step-down training.

Based on observations after step-down training #2, the coach observed that:

- Trainers need to continue to clarify their own understanding of the more challenging concepts- but on the whole they did a good job of reviewing the initial training
- Participants in the training demonstrated a good understanding of the concepts, providing an indication that the first step-down training was effective
- Trainers used visuals and followed step-by-step what they had learned in training
- Some trainers did not follow the appropriate pattern of lesson demonstrations, reverting to traditional lecture format
- Trainers used shared leadership in the training

Time

Based on feedback from participants and ChildFund personnel who attended the workshops, consideration needs to be given to the amount of time spent in class training and the amount of time the facilitator spends in school observing. Participants need coaching on the delivery of participatory approaches as well as coaching and mentoring in becoming a teacher-leader able to do step-down training and to facilitate a TGM. A recommendation was made by the team at the onset of the program to consider that 6/10 days be spent training at a central location with 4 days in schools providing support: to 1) enhance participant level of skill in the classroom through observation and feedback; and 2) for the trainer to model a TGM.

In terms of participant growth, feedback suggested that participants became aware of the dual role they were to adopt: one that is making them more knowledgeable and one that requires them to coach and mentor in a leadership role with their colleagues. Participants were keen to mention that they needed time to interface with the facilitator and with each other. Involvement in local school visitations is a consideration in future projects.

The time frame for the project was not long enough to help measure if the project had any positive outcomes on students' achievement levels. Additionally, due to time constraints, teachers did not receive adequate in-class coaching to help them increase mastery of the techniques. To help overcome this challenge, the trainer conducted coaching and mentoring during the class observations conducted prior to each training. During the training sessions, the trainer encouraged the participants to model lessons in order to give them hands-on experience of a classroom situation. It is important that in any replications of the ATLAS project, sufficient time be given to coaching and mentoring.

Teacher Exchange Visits

It is commendable that some teachers have had the opportunity to visit New Zealand, but for those on a tight budget, consideration could be given to providing opportunity for all participants to visit local schools to gain skills in observation and running a TGM. If participants could follow the facilitator in the observations and the running of the TGM, a true coaching and mentoring stance could be adopted.

Classroom Environments

Success of the project hinges on appropriate classroom environments and sufficient resources. Organizations will have to take responsibility to explore avenues to enhance teaching and learning resources in the classroom. Someone will need to take responsibility to go after opportunities in order to enhance the quality of classroom environments. The program cannot address this issue in isolation.



Program Logistics

It was also recommended to appoint a co-facilitator for the training. Essentially, there are two aspects of capacity building: one is with the participants; the other is in developing the efficacy of ChildFund in the project. Developing capacity with the participants will ensure that the innovation is implemented in their district. However, there is a need to move beyond innovation and implementation. In order to become sustainable and create an impact, the ATLAS program needs to be institutionalized. Developing capacity with a ChildFund representative will help to forge links with the Ministry and other districts. Developing leadership capacity is the key to sustainability in Zambia.

During the period of implementation, one lesson learned was that the active involvement of the Ministry of Education is paramount to the success of the project and that its sustainability rests on strong networks from school to district level. From the onset of the project, involvement of the Ministry of Education was sought and these officers participated in all the project activities including all training sessions. This helped a lot in trying to make the Ministry of Education, through its district office, buy-in to the project.

There is a need to put in place accountability measures to ensure that all aspects of the program are carried through. It is critical to state whose responsibility it will be to carry out the various aspects of the program.

Teacher Group Meetings

Based on observations and from conversations with teachers, there is a syllabus that directs teaching in the schools. However, it may prove to be useful in the "Teacher Group Meetings" for teachers to discuss recurring themes on a vertical scope and sequence.

Deputy School Managers who are in charge of professional development at the school level need to be involved in the entire process of project design, implementation and evaluation. Deputy School Managers are also tasked with ensuring that Teacher Group Meetings must take place and be documented.

During their training, teachers were given an opportunity to offer feedback on the teacher observations and the TGM that was held in their schools. Here is some anecdotal feedback:

- "We are appreciative of the feedback; we need to be told the weaknesses."
- "I requested to be observed and was pleased with the feedback to improve. I appreciate praise."
- "We weren't so afraid and the observations and TGM revealed areas to improve."
- "As a leader I am answerable and much appreciative."
- "This is not a new program, but is adding more flavor/spices to what we already know."
- "I have improved in confidence and desire to take risks."
- "This is a good program."

Although feedback was positive on the TGM, it was noted that teacher leaders were not confident in leading a Teacher Group Meeting. School managers assumed a supportive stance along with the Deputy Managers in this instance.

Sustainability

To ensure sustainability of the project, there is need for continual monitoring of the application of the new teaching methods through regular school visits by the Ministry of Education officers and other implementing partners. These support visits should happen both during and after the project cycle. In normal circumstances, the Ministry of Education usually monitors schools on a regular basis and has a checklist of what is being looked for during these visits. Therefore, it is important for the project members to agree to have elements of the ATLAS program included on the checklist so that these are also monitored whenever a visit is conducted. It is also important that school visits are arranged well in advance and a plan developed and shared with all stakeholders. It is critical to consider that monitoring visits should not be taken as "inspections," but as support visits where issues are discussed in a collegial manner. This will contribute toward the teaching techniques taking root and being widely practiced.

Working through the existing structure at the zonal level is important in ensuring sustainability of the project. It is important to consider the already existing structure in a district, particularly in selecting target schools.

2. Key challenges

ATLAS experienced and resolved challenges during the course of implementation, and identified challenges and opportunities to be considered during replication. The following challenges are important:

- During the project duration, the country experienced country-wide teacher strikes that went on for about 5 weeks. This affected the holding of teacher group meetings. To overcome this, the trainer held whole school teacher group meetings after class observation sessions and also ensured that at the start of each training session, teachers were given time to reflect on the techniques they had acquired and how applicable these were in a real-class situation. This gave room for the trainer to modify/strengthen certain techniques.
- Participatory teaching and active learning methodologies require access to teaching and learning materials such as reading books, subject-related textbooks and other classroom resources. These were very inadequate in the target schools and made execution of some teaching techniques very difficult. Considering that access to teaching resources is a critical factor in learning, it is important that projects such as ATLAS try to address the issue of supplying schools with basic teaching and learning resources. The project had a component of procuring teaching and learning materials for the schools, but clearly this was not adequate. A basic stock of materials that teachers can use to produce low-cost materials locally should be provided. In addition, training should include the utilization of locally available materials to produce teaching/learning resources.
- The Ministry of Education usually monitors schools on a regular basis and has a checklist of what is looked for during these visits. Therefore, it is important for ChildFund National/Area/Federation offices to agree with the MoE to have elements of ATLAS included on the checklist so that these can also be monitored whenever a visit is conducted. It is also important that School visits be planned well in advance and a plan developed and shared with all stakeholders. The Ministry of Education may experience bottlenecks such as lack of a vehicle or insufficient fuel. In such a situation, said offices need to consider ways of assisting the Ministry with transportation support. Above all, one other important issue to consider is that monitoring visits should not be taken as "inspections" but as support visits where issues are discussed in a collegial and supportive manner.
- During the selection process, it is important to ensure that the teachers personally express willingness to participate in the project. This helps ensure they remain committed and complete all the training sessions. Deputy School Managers who are in charge of professional development at the school level need to be involved in the entire process of project design, implementation and evaluation. Deputy School Managers are also tasked with ensuring that Teacher Group Meetings take place and are documented. The project did not involve the Deputy School Managers, but rather the School Managers. In the future, involving all deputy school leaders should be a priority.

3. Project costs and ratios

ATLAS had a cost of US\$106,187. This amount was invested as follows.

\$9,000
\$4,000
\$5,090
\$12,800
\$10,800
\$16,065
\$21,000
\$27,432

The cost ratio per student was \$40.27 considering all costs. This is a good ratio for a 1.5 year pilot project. This ratio is for students in only the three target schools; if students in the additional schools were considered, the ratio would be even better. The cost ratio per trained teacher was \$2,046, excluding teacher exchanges and conference attendance. This seems to be a high cost ratio; however, it reflects inputs required for the pilot phase and the group of 36 initial target teachers. However, 56 additional teachers were trained through the step-down approach thus reducing the per teacher cost to \$801.21. Considering only teacher training and TQC/TGM support costs, the cost ratio per trained teacher is \$367.39. ATLAS showed that a step-down training approach is feasible at least at the school level. And cluster training can be used following the TQC/TGM approach, taking advantage of the zonal (cluster) structure already in place in Zambia. There a selected School Manager acts as Zonal In-service Coordinator. Using a cluster approach would reduce the training costs ratio considerably, to approximately \$227 per trained teacher. Furthermore, as validated training modules and support materials are now available, and TQC/TGM mechanisms have been established, teacher training costs could go further down as ATLAS is replicated in Mumbwa and other districts in Zambia.

Skills

To implement ATLAS successfully, the following competencies and skill sets are needed:

- Ability to effectively engage with children and youth both in a classroom and in recreational settings by listening to their (verbal and nonverbal) voices and experiences. Target group: Teachers and school administrators.
- Monitoring and evaluating skills, including adapting and using instruments to develop baselines and time series data sets per agreed criteria and indicators; ensuring quality in data gathering, recording and processing; using elements of ethnographic studies for classroom observations and interpretation; organizing and interpreting qualitative data; using descriptive statistics including interpretation; reporting and focusing recommendations to resolve critical issues. Target group: ChildFund Area staff and MoE District Staff
- Teacher training including working knowledge of different, classroom-based training approaches; needs assessment and diagnostic methods; training materials adaptation and/or or development; facilitation and modeling; formative classroom observation/assessment; mentoring/coaching; working knowledge of child centered, participatory, active instruction/learning methodologies; and working knowledge of major subject matter areas. Target group: Cadres of school and zonal teacher-trainers, Master Teachers and MoE Supervisors
- Leadership skills including mobilization of resources and building of partnerships and support networks; motivation and engagement of individuals toward defined and understood, appealing objectives; negotiation with different stakeholders; facilitation of issue identification, definition and resolution: and maintenance of a balance between support details and progress toward outcomes. Target group: School administrators, MoE Supervisors, ChildFund Area staff.
- Supervision, mentoring and coaching skills, including various styles of supervision with emphasis on supportive, collegial approaches; working approaches to engage with and motivate school administrators and teachers; use of criteria and indicators to identify bottlenecks, support needs and seek/assign support resources; and the ability to coordinate and articulate teacher training with other systemic efforts, including policy adaptation to improve the quality of education ad student achievement. Target group: MoE Supervisors and cadres of school and zonal teacher-trainers, Master Teachers.



Appendices

List of Participants

Shimbizhi Basic School

Georgina Melobela (Head)
Edwin Chilimboyi
Peter Makang
Fridah Munalula
Derrick Simpokolwe

Mukupi Basic School

Melvin Moonga (Head) Wakumelo Mulima Nicholas Manyepa Timothy Nshimba

Nangoma Basic School

Adben Hakoma (Head) Vivian Chimboma Enedy Ngulube William Mwansa Lillian Kalulisha

Nakatete Basic School

Harry Nkole Hildah Schala

Kalilwe Basic

Coillard Ng'andu

MCDA Staff

Colliam Chitaya (Co-Facilitator) Humphrey Mbwili Rita Magwenzi Himoonga Mugubo Raphael Tembo

ChildFund Zambia

Christobel Musonda

Ministry of Education

Victor Longwani Ngosa Mulevu Stanley Handema

ATLAS Post-Training Questionnaire

Name of leacher:			School:		
We would like to know what kind of Please answer honestly so that the p	•	-	•	d so far in your school.	
Did you have a New Zealand teach Did you visit New Zealand schools in Did you attend all (or most of) the to Have you contributed to any Step-E How many TGM sessions have you	n the ATLAS progra raining sessions co Down Training sch	am? □ YE anducted k emes? □	ES INO Dy Phyllis? INO INO	ES 🗖 NO	
Have you received any of the follow	ving as a result of	taking pa	rt in the ATLAS p	program?	
Extra textbooks ☐ YES Reading books ☐ YES	■ NO If so, plea	se explain_ se explain_			
Since taking the ATLAS program , ho Plan your lessons? If so, please say how	■ Not at all	□ A little		□ A great deal	
Motivate your students? If so, please say how		□ A little	□ Quite a lot	□ A great deal	
Ask questions in class? If so, please say how		□ A little	□ Quite a lot	□ A great deal	
Conduct group work? If so, please say how		□ A little	□ Quite a lot	□ A great deal	
Round out your lessons? If so, please say how	□ Not at all	□ A little	□ Quite a lot	□ A great deal	
Make assessments of your students? If so, please say how		□ A little	□ Quite a lot	□ A great deal	
Have you noted any differences in	the way your stuc	lents respo	and in class?		
Do you think they are learning more	e this year than in	other year	rs?		
What have been the best aspects of	of ATLAS for you?_				
What might have been done difference	ently?				

Summary of a Teacher Group Meeting

Following school observations, a TGM was held at each school. Teachers at the school along with the administration were invited to attend.

The TGM is meant to be a time for teacher-leaders to facilitate sessions whereby colleagues can share, discuss and solve classroom-related problems. The goal is to help teachers develop, plan, and improve on their teaching and learning in the classroom. The facilitator modeled what a TGM could look like.

School #1

Positive Statement: There is evidence of implementation of strategies acquired in the first training.

Focused statement (for Primary School): I noted that there were very large classes in grades 1 & 2 (80-100 students). It appears to be a challenge to "sustain" the students' attention when there are so many students in the class. If you are at the board, those in the back are sometimes lost or distracted. If they are up at the front on the floor beside you, the group gets too big and they all can't see you. Some students can't get to the front to demonstrate and not all can sit on the floor, so they are not in your visual periphery. It is a challenge because of lack of resources and space for everyone to participate.

Invitation to reflect: It appears that **sustaining attention/motivation** is a challenge for teachers who have large classes. Can you reflect on your lessons today or at other times when you felt you did not have all the students with you in the lesson? What happened? What did you do? (Draw out teacher's use of movement to refocus.)

Teach strategies to refocus attention: Let us revisit the stages of lessons.

- Before-stage (focuses on direction of the lesson)
- Purpose of energizer
- Activation of prior knowledge
- Provision of experiences
- During-stage of the lesson
- Teacher models
- Teacher-provided guided practice (This is where we often lose them with large class sizes.)
- Teacher-differentiated instruction
- After-stage of the lesson
- Student demonstration of learning

Factors that enhance or distract attention:

- Class routines B-D-A
- Type of activity and when it is used
- Match between the level of understanding and the level of the lesson

The teacher must monitor students/lessons and adapt and adjust.

Discussion/questions/clarification

Context Actions Results Efficiency Skills

Check for understanding: I want you to think of the next lesson. What could you do in regard to student motivation that would provide balance in your lesson?

Invitation to reflect: So, in focusing on the student's peak attention at all times, keep track of when you are losing focus. Think of the antecedent to that behavior; think of ways to change/monitor your teaching.

School #2

Positive statement: I noted that there was excellent implementation of strategies learned in Training #1.

Focused statement: I noticed that the physical environment of the classroom poses challenges for **engaging students in multiple ways.** (It was mostly teacher-led.) You have 70-100 students/few books/few desks/and needed to make use of the floor. Students don't have the needed materials.

Invitation to reflect: Beyond the use of EPR/Think/Pair/Share, I want to talk about the different ways we can ensure that all students are engaged and on task throughout the lesson.

A prevailing theme coming out of my observations is that the teachers are doing a lot of the work — most of it being oral and use of the blackboard. Can you suggest ways you have used to ensure that there are a variety of strategies for acquiring new knowledge/skills in the B-D-A phases of the lesson? Discuss with others one observed lesson and invitation.

Teach: I will use the example of the lesson focus on Vocabulary/Comprehension and review what took place.

Before:

- Brainstorm words on the board (keep target vocabulary in mind)
- Have students think/write down known words and their meaning (share 1-1 or in a group)

Survey the text to see if there are unknown words (write them down and put the meaning beside them) Use the anticipation guide utilizing vocabulary true/false statements

After:

- Complete the anticipation guide
- Have them write (retell) a paragraph using the target vocabulary

Have students develop questions in pairs — make it a competition

This ensures that all modalities are used: visual, auditory and tactile

Check for understanding: I want you to think of the next lesson. What could you do in regard to student engagement that would provide balance on all modalities?

Reflective question: So, focusing on the notion of the kinds of learners, try to keep track of the ways your lesson could/was adapted to accommodate and engage learners.

Notes

ATLAS was made possible through the partnership and collaboration among:







