

QUARTERLY REPORT FOR INnovations in Technology-Assisted Learning for Educational Quality Project (INTALEQ)



A Global Development Alliance Project



Quarter 2 FY 09 Report for the INTLALEQ Project (Jan-March 2009)

Prepared and Submitted by Education Development Center, Inc



EXECUTIVE SUMMARY

This was a busy quarter for the INTALEQ project. The project made progress on all fronts, in terms of implementation of activities. During this quarter, the second semester digital learning objects were all localized to the Yemeni context. The MOE localization team, along with Intel, exceeded the target number of digital objects planned for the second semester. The objects were made available online at the Intel website (skoolyemen.com).

Student assessment instruments for all four subjects (math, biology, physics and chemistry) were developed during this quarter. The pre-tests were administered to 1151 students in Sana'a (a combination of 812 students from project schools and 339 students from control schools). The math and biology tests were administered first and the physics and chemistry a couple of weeks later, due to delays in the finalization of these tests.

Progress was made in terms of the dissemination of digital learning objects. The MOE is working on the INTALEQ webpage, linked to the MOE homepage. The digital learning objects are available online and are being used by teachers in project schools. Progress is being made on the development/translation of a platform to enable teacher sharing of lesson plans, journals and other resources. This will also serve as a venue to provide links to other MOE approved resource sites.

The first set of teacher workshops occurred during this second quarter of the project. A training of trainers was held during the last week of January to prepare a cadre of INTALEQ trainers, who will eventually train the teachers participating in the project. During the first week of February, those trainers, under the guidance of EDC experts, trained the first set of INTALEQ teachers from the 6 project schools in Sana'a.

The project decided, in consultation with partners, to make a change to the implementation plan (and essentially to the project design) such that the project would be piloted in Sana'a only during the winter/spring semester of 2009 and then would be expanded to the other project governorates in the fall of 2009. Originally the plan had been to expand to all governorates immediately. This decision was made to pilot the materials and coach the trainers through a first training, with on site mentors from EDC, rather than simply train them one week and send them out to the governorates the next week.

In terms of project administration, a project newsletter was launched to ensure better communication about the project within the MOE (as the newsletter is in Arabic) and among partners. EDC developed the Policies and Procedures Manual for local staff and the final two partners who had not finalized their agreement documents with EDC did so during this quarter.

Finally, INTALEQ partner Haile Saeed offered to host a summit in Ta'iz in May to look at lessons learned from the Sana'a pilot, prepare for the expansion and highlight the project for a broader audience (of private sector colleagues) in hopes of attracting more partners into the mix. Robert Spielvogel, EDC's Chief Technology Officer, visited the MOE in Bahrain and shared with them the INTALEQ experience. The Bahraini MOE is planning to send representatives to the summit in Ta'iz to learn firsthand about the project.

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ACRONYMS and ABBREVIATIONS

EDC	Education Development Center, Inc.
ERDC	Education Research and Development Center
HSA	Haile Saeed Anam Group
LOs	Learning Objects
MOE	Ministry of Education
MOU	Memorandum of Understanding
USAID	U.S. Agency for International Development

I. Overview

This report covers the period of January – March of 2009. This was a very busy period for INTALEQ, as the pace of technical activities increased. This overview presents a brief summary of the highlights that occurred during each month of the quarter. The report is then organized in terms of technical domains—Digital Content Development, Dissemination and Capacity Building as well as Project Administration—and further details on both accomplishments and challenges are shared in those sections. Finally, the report ends with a section on Results Reporting. In addition to reporting on expected results named in the proposal, we also report on output indicators in this section as well.

January: January was a month of intense activity. EDC teacher training and technology specialist Mary Burns worked to finish an updated training program focusing on active learning while integrating the Intel learning objects into the program. In late January, Mary Burns along with Arabic speaking EDC trainers from the Middle East (Hala Taher and Said Assaf) traveled to Sana’a, along with Robert Spielvogel, EDC’s Chief Technology Officer, to implement the training of trainers and then work with the trainers to train the teachers the following week. During the week of TOT, January 24 – 31, 2009, EDC decided that it would be more prudent and effective to phase in the project and thus give the trainers a chance to train a smaller group of teachers in Sana’a under more supportive circumstances rather than to dispatch them to the governorates to train teachers there right away.

Also in January, the MOE localization team and Intel counterparts in Ireland and Egypt worked to finish the adaptation of learning objects for the second semester so they would be available to the trainers and teachers who were to be trained at the end of January and the beginning of February respectively. EDC also finalized its contract with the Al Awn Foundation in January. In addition, school technology/equipment profiles were completed in January and the final selection of schools to participate in the project was also finalized in this month.

February: From Feb 1-4, 2009, the project conducted its first teacher training event, with 31 teachers, principals and deputy principals from 6 secondary schools (5 for girls and 1 for boys) from the selected INTALEQ schools in Sana’a. The focus was to help teachers become familiar with their discipline’s digital learning objects, to develop strategies to use the objects in their teaching (to expand their teaching repertoire to include more active learning methods) and to practice implementing lessons designed around the digital learning objects. The training was implemented by the trainers from the previous week’s training, under guided supervision from Robert Spielvogel and Hala Taher.

The teachers who received the training then went back to their schools and began to use the second semester digital learning objects in their classrooms, with close monitoring conducted by EDC training manager Ameen Al Kaderi. Also in February, EDC engaged Dr. Said Assaf and the team from Intel to assist in the development of student assessment tools for each of the four disciplines (math, physics, biology and chemistry), in order to implement the student baseline. Finally, in February, EDC developed and shared a revised workplan to reflect the newly adopted phased in approach (i.e. piloting the materials and methods in Sana'a during the winter/spring semester of 2009 and expanding it to the other governorates for the fall semester of 2009). EDC wrote to and consulted with the partners on this decision during the month of February.

In terms of project administration, Al Awn and Intel signed agreement documents with EDC for the INTALEQ project. Finally, in February during a visit to the Haile Saeed headquarters in Ta'iz to explain to them the rationale for revising the implementation plan, HSA offered to host a summit in the spring to reflect on lessons learned from the Sana'a pilot and plan for the roll out in the other governorates (particularly Ta'iz). The summit would also serve to showcase the project for local government, the MOE and private sector companies that HSA will invite to participate.

March: Development of the student assessment instruments got behind schedule during the quarter due to the difficulty in finding consultants qualified and available to develop the instruments in Arabic, based on the learning objects and the Yemeni curriculum for 10th grade math and science. The math and biology tests were finished in early March and the student pre-tests in these two subjects were administered to students in the six schools in Sana'a during the second week of March. The pre-tests were administered to the control schools the following week. Teacher follow up occurred during the month of March with the Director General of Sana'a, Mr. Mohammed Al Fadli, making a surprise visit to one of the project schools (Al Sabean). A representative from the HSA group also visited a couple of the schools in March and of course EDC staff made regular, unannounced visits to the schools to make sure that the teachers were utilizing the learning objects and the new teaching methods. Additionally, in late March, the supervisory and monitoring role of the MOE, vis a vis the INTALEQ project, particularly with respect to teacher performance, was further defined and agreed upon.



Mr. Mohammed Al Fadli talking to students during his school visit

INTALEQ's first newsletter was published in English and Arabic during the month of March and EDC submitted a no-cost extension request to USAID to extend the project through January 2010, in line with the revised implementation plan and the phase in strategy of piloting the materials in Sana'a during the spring 2009 semester and expanding to the

other governorates in the fall of 2009. The amendment, if approved, will also serve to officially add Al Awn to the project by including their budget in the overall project budget and updating the program statement to include Al Awn. The MOU, signed by Al Awn in addition to the other partners, will replace the one from the fall of 2009 that was executed before Al Awn joined the project. Finally, in terms of administration, EDC finalized a Policies and Procedures Manual for local staff to use as a reference.

Please see Appendix A for a copy of the EDC team's trip report from the late January/early February visit to Yemen, as this covers a multitude of topics, including the TOT, the teacher training and the revised workplan.

II. Progress and Challenges in Programmatic Domains

A. Digital Content Development

The focus for this quarter was on finalizing and launching the newly adapted digital learning objects for the second semester of 10th grade. The other significant task related to the digital content development concerned the development of an assessment tool to test students' content mastery of topics emphasized in the learning objects for the second semester.

1. Accomplishments

As of January 28, 80 learning objects for use across the second semester of 10th grade math and science (physics, chemistry and biology) were identified. The finalization of the localization of these objects was wrapped up in February and the selected objects were uploaded onto the Intel skoolyemen.com website, accessible through the MOE website.

EDC and Intel developed four student assessment tools (pre- and post tests), one in each subject area. The assessment instruments were aligned with the Yemeni curriculum and keyed to the knowledge and skills emphasized in the learning objects. The objective of the assessment is to see whether the learning objects help students in INTALEQ schools to better learn target concepts and skills in math and science. These students were then compared with counterparts in control schools, which cover the same curriculum but do not use the digital learning objects. The project selected a rather ambitious sample in Sana'a. Students from 21 classes or "sections" (15 from project schools and 6 from non-project or control schools) were randomly selected to participate in the study. In other words, a school might have several sections of 10th graders due to the large number of 10th graders in the school. (Most of the schools in Sana'a have fairly large student enrollments, unlike in some of the more rural areas of the country, where enrollment diminishes as students, particularly girls, get older and go to work or get married.) We randomly selected certain sections of 10th graders to participate in the testing in both INTALEQ and control schools. Overall, we administered the pre-test to 812 students from

the project schools in Sana'a and 339 from the control schools in Sana'a for a total of 1151 students. However, each student in effect took four tests—one in math, one in physics, one in biology and one in chemistry. Hence, the number of test papers was 4564. Teachers were given basic guidelines to share with students on how to take the tests, in case some students were not familiar with the multiple choice test format. The tests were developed by the Ministry of Education, Intel and Arabic speaking experts from Education Development Center, Inc. Teachers had begun using the learning objects by mid-February, so it is possible that some of our baseline will be a little high for certain topics. Overall, however, we should be able to compare results of the pre-test with post-test results and look specifically at content areas that were not covered by the teachers in February. The pre-tests are in the process of being corrected and will be finished in the third quarter. This early testing exercise in Sana'a has also allowed us to pilot the instruments so that if revisions or tweaks are necessary they can be made over the summer for the data collection planned for all four sites in September 2009.



Students while taking the pre test in one of Sana'a participating schools

Finally, during this quarter a basic computer laboratory profile was completed for all the project schools. The profile includes detailed information on the number of teachers in the schools, the number of students, the number of 10th grade sections and the number of 10th grade students. This is attached in Appendix B.

2. Challenges

The localization team, in the end, selected only 68 of the 80 learning objects that were localized, to be put online and used by teachers. This left 12 objects, which had been adapted and localized, that the MOE team decided not to use. This resulted in the Intel team doing adaptation work that in effect went for naught, at least in this the pilot phase of the project. The reasons for not using 12 of the adapted LOs are not entirely clear; we believe the MOE team, in their enthusiasm for the project, over selected and thus had more LOs per one unit or lessons than necessary or possible for a teacher to use. In addition, we think that in some cases the localization team was not entirely satisfied with the localized objects.

The localization process, done by MOE counterparts as part of a project such as INTALEQ was a new experience for Intel, the MOE and EDC so it is not surprising that there were some glitches, such as the localization of 12 objects that were ultimately not used. The communication process back and forth between the localization team, moderated by EDC's training and logistics manager Ameen Al Kaderi was also a challenge and there were several lessons learned that can be applied to streamline the process for the next round of localization. Indeed, as the majority of Intel's resources were expended in the localization process for the second semester, Intel has made several recommendations, which will be

observed in the coming months, to shorten and streamline the process, as the localization team begins to select and localize learning objects for the fall semester of 10th grade. In particular, both Intel and the MOE team recommend focusing on the Intel's Skool.com. Egypt materials as the Egyptian curriculum seems to be the closest to the Yemeni curriculum. Intel has recommended that the MOE team select fewer learning objects for the first semester, as the number of learning objects adapted for the second semester was greatly in excess of the target of 40 objects. The MOE has been consulted and has agreed on these parameters. Finally, a general observation made by the MOE, Intel and EDC was that the objects need to be agreed upon several months, not several weeks, before the training of teachers is set to commence. The objects are necessary for the training and training designers need to build the training around the learning objects, in order to give teachers well developed, concrete examples of how to incorporate the LOs into their lessons.

B. Dissemination Systems

With a set of learning objects adapted and with the first set of teachers trained and ready to use them, this quarter saw the first steps in the design and development of a dissemination system.

1. Accomplishments

Intel and the MOE launched the skoolyemen.com site, which houses the currently available learning objects (those for the winter/spring semester of 10th grade math, physics, biology and chemistry). The learning objects are located on the Intel server and are reachable through a link on the MOE website.

In addition, the MOE Information Technology Department is building the INTALEQ project webpage on the MOE website. The INTALEQ website will link to the skoolyement.com site and to other MOE approved educational sites. The webpage was still under development at the close of this quarter and we expect it to launch in April or early May.

Two developments have resulted in modifying our approach to using the Curriki platform. The first is that reprogramming Curriki to support Arabic has proved more challenging than originally planned. We also have recognized the need to focus teachers on a key subset of all of the various options and tools that Curriki provides. This adaptation to Yemen and the INTALEQ project requirements has had Curriki and EDC working together to provide a streamlined version of Curriki that will be easier for teachers, administrators, and the MoE to use while building up their familiarity and capacity to use the more sophisticated and full fledged Curriki when it comes on line later in the year.

Curriki and EDC devoted time in March to look for a way to build a subset of the functions in Arabic while keeping the platform open source and providing a bridge to the full Curriki system. We are using Drupal software to develop an English/Arabic platform, which will

form the basis of a site to house MOE approved, locally, regionally or internationally developed appropriate teacher lessons and other products, initially related to the digital learning objects and eventually to a broader set of topics. While the system and functionality can be used in either Arabic or English, only the Arabic version will be used for the INTALEQ project since there is not a budget or a rationale to fund continual translation to English of the teacher and administrator mounted content. For reporting purposes, we will translate representative postings as needed.

2. Challenges

The cost for converting the US version of Curriki has proved to be greater than originally expected. While Curriki and EDC expect that they will be able to both fund and complete the full conversion, we were worried that it would take more time than we had before the scheduled June trainings of teachers. We worked with Curriki to plan and develop a streamlined version of Curriki to offer during this phase of the INTALEQ project. It has the key functions of the full Curriki necessary for this phase of the project without needing as much training for teachers to become comfortable with its use. We are using a widely supported open source tool called Drupal to develop this initial version of Curriki Arabic while working on the conversion of the full system for later introduction. The initial “Curriki Arabic ” application e will be ready and launched in the 3rd quarter. Curriki was not intended to be introduced to the project teachers until the major training initiative scheduled to occur after the Sanaa pilot. As the digital learning objects are on line and accessible, the pace of the Curriki translation has not at all impeded the progress of the project and indeed, more work needs to be done with the MOE to agree upon a system for posting and review of posted lesson plans, teacher journals, etc. That will occur during the 3rd quarter, once the basic platform is finished and launched. This staged approach, while not originally envisioned, is resulting in a more organized, step-by-step build of capacity and skills across all project participants.

C. Capacity Building

Capacity building was a major focus of this quarter as INTALEQ launched its first set of training events. The trainings were very well received both by trainers and by teachers, principals and supervisors.

1. Accomplishments

From January 24-31, INTALEQ conducted a high level training to introduce how its digital learning objects will be used in combination with active learning and learner-centered teaching in the Yemeni school in the upcoming semester. The workshop was conducted with a total of 20 representatives from the MOE’s educational technology unit, members representing mathematics, biology, chemistry and physics from the MoE’s curriculum development department, school supervisors from the MoE and the Sana’a governorate,

subject area specialists from Sana'a University and local master teachers. This group represents the pool of trainers the INTALEQ project will use in expanding the project to the other three governorates. This approach extends the role of the localization team into that of trainers as well as materials adaptation specialists. The localization team very much wanted to have a role in the training of teachers and after the project staff saw how familiar the team was with the learning objects, we felt this made a good deal of sense and allowed us to



EDC Trainer Hala Taher and Yemeni teachers in the January training

further build the MOE capacity to expand the project to schools with computers and internet in non-project governorates. It also reduced the cost of having to hire consultants to be project trainers and this too was helpful.

The TOT went well and the trainers came out of the experience with a deeper appreciation of how hard it is to truly make lessons meaningful and student centered, with a much more concrete and well-developed sense of how the LOs will actually be used by the teachers in the classroom, with a deeper understanding of the content and structure of the LOs themselves and perhaps most importantly, with a better sense of the task of trainer on the INTALEQ project and with an improved capacity to implement this task. These conclusions were drawn based on observations of the trainers developing and presenting lessons based on the LOs, on commentary gathered during the course of the TOT and on the results of a brief training evaluation form that the trainers completed. The questions mainly focused on successes, difficulties and suggestions for future TOTs. The trainers' feedback unanimously indicated that they found the training activities interesting and useful.

The training of teachers was a rewarding experience for the trainers and the teachers alike. The INTALEQ project launched its school utilization phase from Feb 1-4 by conducting an



A group of teachers exploring the digital learning objects during the February training

extensive teacher training with 31 teachers, principals and deputy principals from 6 secondary schools (5 for girls and 1 for boys) in Sana'a. (A sixth school was selected because of the size and functionality of its computer lab. The lab provided the venue for the training event and in exchange for the use of the facilities, the school asked if it could be part of the project. As at present we have only located four schools in

Ta'iz that have the requisite equipment to participate in INTALEQ, adding an additional school in Sana'a did not represent an undue burden to the project or project budget.)

Teachers gained familiarity with their discipline's digital learning objects and how to use these materials to expand their teaching methods repertoire to include more active learning methods.

At the end of the teacher workshop, participants were asked to fill a one page feedback sheet aimed to collect their input around the training activities. In the first question

participants were asked to rate the training activities using the scale 1 (lowest) to 5 (highest); the table below illustrates participants' response to this question. From the responses below (also the informal feedback from the participants during the workshop); it is evident that most of the participants found the new instructional strategies interesting, useful and applicable in the classroom.

Table (1): Participants' Feedback

Activity	Rate					Things to change
	5	4	3	2	1	
Working alone and together (structuring individual tasks that feed into a group task and final product)	7	6	10	0	0	More examples; curriculum relevant examples; consider individual differences.
Jigsaw/ exploring the interactive	12	12	3	0		Better LO accuracy; more time; add a plan for role distribution.
Induction	13	7	6	0	0	Curriculum-relevant examples; better explain the task
Work Station (the Smoking Project)	13	11	0	2	1	Interesting but needs more organization; help participants with the surveys; time wasn't enough; more training; better to include the surveys; more time for internet stations.
The Subject focused projects	15	8	2	1	0	More training; more curriculum relevant stations; more time

** Numbers in the cells above show the number of participants who chose the specific rate; the difference in the total number of respondent to each activity line varies as some participants did not answer or had unclear response;*

The subsequent questions on the training evaluation asked the participants to list 3 main successes; difficulties and suggestions to enhance the training.

- Nearly 21 participants out of 27 considered learning new strategies, collaboration, and teacher networking and sharing as the main successes.
- 15 participants found the workshop to be too short, with not enough time to fully cover the training topics.
- 11 participants reported lack of ICT skills and considered this as one of the main difficulties.

- 11 participants reported distance and transportation as one of the main difficulties and recommended to use a more central location.

Participants also gave quite interesting recommendations to enhance the next training, including the following:

- Follow-up with the trainees in the schools
- Complete the LOs (some of which were still being finalized at the time of the training)
- Conduct the training during the end-of-year vacation (as opposed to during the semester break)
- Conduct additional training workshops during the semester
- Organize ICT training workshops
- Organize English language training
- Distribute a training manual to teachers
- Help teachers to have their own computers or dedicated computers at schools.

The training manuals will be compiled in English and Arabic for use in further trainings and distribution to MOE counterparts and teachers. The teacher training event also served as a venue to collect background data on teachers' computer and internet knowledge and use patterns. Results are reported in the results section of the report. (See Appendix C for the results of this survey.)

2. Challenges

From the perspective of the EDC training team, challenges related to capacity building inhered in two domains during the recent training events: a) making sure project trainers are capable of executing a training program with a genuinely participatory and learner-centered focus and integrating the use of digital learning objects into that training ; b) making sure that teachers understand the new methods and the learning objects and that they utilize both. While the EDC staff was satisfied that both the TOT and the teacher training event met their objectives, follow up will be critical to make sure that practice occurs in the classroom and that skills do not atrophy over the course of the semester.

In addition, most trainers were drawn from the MOE localization team, although there were master teachers from the IYHS project, MOE supervisors, and some university faculty. Aside from the university faculty and the master teachers, the other trainers have not been

in classrooms regularly for quite a while. There were challenges in getting them back into the teaching/training mindset and having them focus on designing lessons around the digital learning objects that were really student centered and active. However, the very hands on nature of the TOT did help most of the trainers to experience the process of teaching using a learning object and this was one of the overall objectives of the training. In addition, EDC will be able to select among the trainers for training events and also to make strategic pairings to ensure that stronger trainers are paired with those that are a bit weaker.

Both the TOT and the teacher training ran into some expected logistical challenges. The greatest one related to time. The training program, especially for the trainers, was ambitious. The trainers turned around and implemented the training program with teachers, under the guided supervision of EDC international staff, and this provided a second forum for the trainers to really interact with the materials. Nonetheless, the period of training for the trainers could easily have been several days longer. Among the difficulties participants mentioned in their evaluation of the TOT were: the need to give more time for the training activities, better Internet access, a more centrally located training site, the need for a more concrete written plan for the next step, and the reduction of the long training hours.

Predictably, there were also issues of transportation allowances raised, as the trainers contended that the amount they were receiving was not enough. EDC raised the amount by \$1.00/day (which made the transportation allowance coincide exactly with the amount budgeted). Hence, this did not pose an undue hardship to the project and satisfied the trainers that their concerns were heard. The trainers did not like the box lunches served on the first day so a new catering arrangement for lunch was made by EDC staff.

The training of the teachers did not present as many challenges, especially because the trainer/trainee ratio was very good, given that Sana'a was the only target governorate for this phase. Teachers' very grounded, classroom orientation was immediately evident as well and they were in some ways more ready than the trainers to take in the new methods and materials and put them to use. However, we still believe that having a cadre of trainers within the MOE and available to the MOE will be critical as the project expands to the three additional governorates and will be necessary if the MOE wants to expand the project to more governorates beyond the four that INTALEQ is operating in.

Follow up visits to the schools were conducted by project staff and the MOE. The HSA group also had a representative stop by one of the schools to observe how the LOs were being used. In most cases the visits were unannounced. More detail on what was observed during these visits is reported in the results section.

D. Project Administration

Project administration was organized around supporting the three major strands of activity this quarter. Project administrative staff in DC and Sana’a focused on making sure the target schools’ labs were operational and internet ready; adequate preparations were made for the TOT and training of teachers; the development of a Policies and Procedures Manual for the in-country staff and the submission of a no-cost extension request by EDC to the mission.

1. Accomplishments

During this quarter, the final two partners signed the agreement document with EDC. Specifically, Intel’s sub-agreement with EDC was finalized and Al Awn’s agreement with EDC was also completed. Below is an update of the table from the Quarter 1 Quarterly Report, indicating (in the light blue shaded rows) the dates that the remaining two agreement documents were signed.

Partners (in alphabetical order)	INTALEQ MOU Signed	Agreement Document Signed with EDC
Al Awn Foundation	November 22, 2008	February 8, 2009
Curriki	September 15, 2008	n/a
EDC	September 22, 2008	
HSA	August 31, 2008	November 2, 2008
Intel	September 19, 2009	February 25, 2009
MOE	September 22, 2008	n/a
USAID	September 23, 2008	September 29. 2008

The DC staff, with input from the field staff, finalized a Policies and Procedures Manual for the project. Areas covered in the manual include financial management, human resources, procurement, etc.

EDC submitted a no-cost extension request to USAID in March. The request would extend the project through January 2010, to accommodate the new phase in design that was implemented in late January/early February. (The new phase in design essentially means that the project is piloting the materials in Sana’a during the winter/spring 2009 semester and will expand to the other target governorates for the fall semester of 2009.) Included in

the no-cost extension request was a revised program description that included Al Awn, the MOU with Al Awn's signature added and a revised budget, incorporating Al Awn's contribution to the project.

Project communication efforts increased this quarter with the design and dissemination of a monthly INTALEQ newsletter. The newsletter is published in English and Arabic. Its main purpose is to keep the various players in the MOE apprised of the project's developments, as it is not always a given that one group or team that the project works with will report up through the hierarchy on project developments.

2. Challenges

The sheer volume of work for the staff in the field presents a constant challenge. The Sana'a based project staff have had a hard time locating an accountant who will work part time (possibly 1 day a week) for the project. Hence, an accountant has not yet been hired and this puts an extra burden on the logistics and training manager. As USAID plans to make an award to EDC through the Equip 3 mechanism, this presents an opportunity to perhaps share an accountant, thus making the job more attractive to potential candidates because it could be fulltime or at least 75% time.

Grading the 4500 pretests presented an administrative challenge to the project staff and budget. The ambitious sample meant that exam correction took more time and resources than expected. The project staff did research into rates paid by the MOE for exam correction and then based its payments on a figure in line with this rate. The project will reexamine the sample size during phase two of the project, when it is expanded to Ta'iz, Mukalla and Aden in order to minimize this issue in the future.

III. Results Reporting

This section of the report will deal with updating our reporting on achievement of project results. As this is the second quarter of the project, we do not have student results to report at this time. Student results will be available toward the end of Quarter 3, after the post tests are administered, corrected and compared with the pre-test scores. We have some data on teachers' successes and difficulties using the LOs with their classes.

As results are still emerging, as we are still in the first phase of the project, the organization of this section of the report focuses on the major deliverables.

A. Student Assessment

We will use a pre-test, post-test model, with a control group, to look at whether students who use the INALEQ digital materials show increased learning gains over their counterparts who do not use the materials.

Expected Result: Improved student achievement in 10th grade math and science in INTALEQ schools

Target: 60% of students in 10th grade will have improved their scores in math and science after participating in the program.

Results achieved to date: The baseline assessment for students has taken place (in both INTALEQ and control schools) and the data are being analyzed. Preliminary baseline results should be available in mid-May 2009.

B. Teacher Performance

Regular classroom observation, computer lab usage logs, teacher lesson plans and teacher interviews will assist us to determine the extent to which teachers regularly use the materials in their 10th grade classes and give us information on how well or how effectively the teachers use the materials with their students. Repeated observations will also allow us to monitor teacher improvement over time in terms of effectively using the materials.

Expected Result: Grade 10 math and science teachers in INTALEQ schools employ additional digital materials and active, inquiry-based methods for teaching and assessment in their classrooms.

Target: 70% of teachers regularly use digital learning support materials in the classroom with their students

Results achieved to date: Teacher monitoring began in February, after the teacher training concluded. Laboratory usage logs as well as unannounced classroom (lab) visits indicate that the teachers are regularly using the digital learning objects. A feedback session was scheduled for April 2 with thirty-two math and science teachers, four school principals, three school lab technicians and four MOE subject supervisors and several curriculum developers from the department of curriculum and supervision at the central MOE. Results from this meeting will be reported on in the Quarter 3 Report.

The MOE started its follow up with the teachers in the targeted schools. The Deputy Minister for Curriculum and Supervision formed two teams composed of members of the curriculum department and subject area supervisors. The teams' mandate is to visit the participating schools twice a month during the pilot period, with the following objectives: 1. observing the teachers' application of active learning methods in their classrooms and providing pedagogical support as needed, and 2. observing how the teachers are using digital materials specifically and 3. collecting teachers' feedback about both the active learning methods and the digital materials. Data from the MOE monitoring visits was not available in time to be included in this report; hence it will be shared in the Quarter 3 report.

C. Digital Library of Materials

This result area focuses on documenting the finalization of the localized Intel materials but is also broader to encompass the inclusion of other materials that the MOE might locate and establish links to or that teachers might create themselves to share online.

Result: Eighty digital learning objects from Intel's skool.com Arabic language materials localized for Yemen and in use by teachers in the 20 project schools.

Target: 10 Physics, 10 Math, 10 Chemistry and 20 Biology Learning Objects from the Intel skool.com sites are fully adapted to the Yemeni context for use in 10th grade classrooms.

Results achieved to date: Eighty learning objects for the second semester alone have been selected and localized for use in Yemen. Sixty-eight of those objects are online and in use by teachers. The MOE decided not to use the remaining 12 LOs. Digital learning objects for the first semester will be localized in the coming months. Hence the project will exceed its targets for this result area.

D. Ministry of Education Portal

This result will document the creation of the MOE portal and will essentially allow us to determine the level of access and ease of access available to teachers and others in utilizing digital content.

Expected Result: Fully functional portal tailored to Yemeni context and containing basic digital materials and/or links that teachers and students can use.

Target: Yemeni MOE portal up and running and used by teachers and students by June of 2009

Results achieved to date: There is a link on the MOE website to the skoolyemen.com site on the Intel website. The MOE is in the process of developing an INTALEQ webpage reachable through the MOE homepage. A platform for posting and sharing educational materials is almost completed, using Drupal software. We are using Drupal since Curriki is a bit behind on the translation of their platform into Arabic. With the Drupal version, we will meet the target for this result. The Curriki platform will be finalized and launched in the coming months.

The compiled INTALEQ training manuals in English and Arabic will be available in Quarter 3 and can be posted on the portal site.

E. Future Partner Recruitment

We have included this result area as one goal of the partners is to be able to extend the project to other grades and other governorates. In order to be able to do this, it is highly likely that the project will need to expand its funding base by attracting additional private sector contributors.

Result: Additional partners join the INTALEQ project and provide funding to expand the project's work to other grades and other governorates.

Target: Two additional partners by the end of the first year of the project.

Result achieved to date: the INTALEQ has attracted one additional partner since its beginning on September 29, 2008, namely the Al Awn Foundation. Al Awn is contributing over \$500,000 in cash and in-kind contributions, allowing the project to immediately reach additional governorates than the two in the original proposal. Under Al Awn's funding, INTALEQ will be able to expand to 5 schools in Mukalla and 5 schools in Aden.

Robert Spielvogel traveled from Sana'a to Bahrain in February and had the opportunity to share with his Bahraini MOE hosts some of the work of the INTALEQ project. They were quite interested and Bob invited them to attend the Ta'iz summit to be hosted by Haile Saeed, most likely in May. This might present another avenue for project expansion, on a regional level and could be an opportunity to attract additional partners as many Gulf States do give money to support projects in Yemen.

During the third quarter of the project, INTALEQ partner Haile Saeed will host an event in Ta'iz to publicize the project and hopefully attract more private sector support. Hence, we are on track to draw in at least one more partner during the first year of the project.

Appendix A
EDC Team Trip Report, January/February
2009 (TOT and Training of Teachers)

Mary Burns, Hala Taher, Ameen Al Kaderi, Bob Spielvogel

**Trip Report: Yemen and Bahrain – INTALEQ project Jan 25th through Feb 9, 2009
(Please note that this report is a compilation of individual draft reports and
therefore contains some repetition in places.)**

Purpose of trip: Supervise and support the first implementation phase of the INTALEQ project, meet with key stakeholders and staff, revise work plan to accommodate changes, and document key decisions and actions to ensure that the project achieves its ambitious goals. This report is a combined review of the events and recommendations emerging from this intense period

This trip was timed to coincide with four critical events:

1. The completion of the Yemini localization of second semester digital learning objects in each of the four core subject areas covered by the project (Mathematics, Physics, Chemistry and Biology) at the 10th grade level.
2. The creation of the first portion of the INTALEQ portal at the MoE – that will link to Skoolool Yemen to provide web access to these digital learning objects.
3. The training of project facilitators and trainers from various areas within the Ministry of Education and university experts to provide a core team familiar with the project’s objectives and approach in order to provide teacher training, support, and evaluation capacity as the project expands to schools in the four governates and beyond.
4. The training of an initial cohort of participating schools in using the digital learning objects within the context of lessons that feature active, student-centered learning in the spring (second) semester.

It turned out to be fortuitous with the unanticipated postponement of Helen Boyle’s visit due to complications in Mali.

The outputs from this visit include:

1. A detailed internal action plan for the next 4 weeks and beyond with critical activities listed, completion dates, and who is primarily responsible.
2. A revised work plan that accommodates the actual project launch date (November 2008) and the significant participation of the Al Awn Foundation.
3. Discussions and agreement with the MoE around the design and function of the INTALEQ Portal and its linkage from the MoE web site.
4. An evaluation plan that identifies data to be collected during the various phases of the project.

5. Meetings with Susan Ayari US AID CTO for this project to update her on progress and the adjusted work plan.
6. Visits and discussions to the teacher training sessions from Scott McCullough from the Matery Project at Sana'a University's Faculty of Education in order to lay a foundation for coordination with the project to reform university teacher training in the Maths and Sciences.
7. Visits to the teacher training from the Al-Saleh Social Foundation for Development Manager Fawzia Mohammed AL-A'asham – the foundation focusing on girls, which lays the foundation for follow up meetings to discuss their possible joining the INTALEQ alliance.
8. Meetings with the HSA in Taiz to discuss the revised work plan and time line and plan for the project implementation in this governate.
9. Meetings in Bahrain with the Bahrain MOE following up on their interest in working with EDC on several initiatives and their interest in learning more about INTALEQ and potentially adopting it as part of their e-Learning program in Bahrain.

Details on the revised work plan:

The key event during this visit was the consensus decision by the project team to recommend a major adjustment in the work plan to accommodate the November launch date, the additional computer installations now feasible with Al Awin's participation, and the unexpected rigor undertaken in the localization effort. These factors all supported the creation of a two phase work plan with the spring semester (Feb through early June) being used to launch the project in 6 schools in the Sana'a governate followed by adjustments to the training and then a second phase launch to the rest of the project schools in the three additional governates participating in the project.

The advantages of this revision are several:

- It allows all four governates to use the digital learning objects for a full school year and in the correct sequence (as in the original plan when we had hoped for an August 2008 launch).
- As of the week of starting on Feb 1, not all of the digital learning objects for use in the second semester had finished their review and approval by the localization team. Project staff can easily update the computers in Sana'a schools with the additional Los when they are available in the next week but starting the work in the other governates without the full set of LO's would have been added some expense.
- The pre-post tests are being developed now and we need a full pilot of them to ensure that they have the power to discern various levels of mastery of the key concepts covered in the second semester of these four content areas.

- With additional computers being added to schools in the governates and some training being provided for technical coordinators, it is advantageous for that work to be completed before the teachers begin to use the computer labs for lessons with the students.
- The training on active learning/learner centered pedagogies and lesson planning around the use of the digital objects was an ambitious and tightly packed program that squeezed a lot of content into a four-day training. We need to review the agenda and the feedback from the Sana'a participants to evaluate whether we need to make adjustments before giving the training to the remaining schools. We also need to refine teacher support mechanisms in the schools to help reinforce the activities that teachers practiced in the workshop back in the schools.
- The original time line had four teams of trainers going out to each of the four governates simultaneously, having only completed their own training the day before. We did not have enough staff to accompany them and provide guidance and support to ensure that the teacher training would be conducted with the quality and fidelity needed to ensure a good launch. The revised workplan allows us to do the training in the governates in a serial fashion so that a training team can be supported and facilitated by the staff to ensure the best quality of training for all of the participating schools.

The revised work plan now calls for a follow up workshop in Sana'a at the end of the semester (June) for the teachers and principals that participated in the spring. This would look at their experiences and introduce the first semester (fall) digital learning objects and the use of Curriki Yemen. Based on what we learn from these teachers and principals, the project staff will revise the training workshop and then offer it in the three governates before the September semester start.

All four governates will participate for the fall semester and the full evaluation will occur, including pre and post testing of all students. The project is now set to formally conclude in January 2010 with all of the schools able to continue on an a self sustaining basis into the second semester. This revision is a no cost revision; the adjustments will not change the budget or its allotments from the original plan. However with the growing visibility and interest in the INTALEQ project, the project team is hopeful that a significant additional partner might join the GDA (NATCO) which would extend it to more schools and allow the staff to formally operate at least through June of 2010 so that it can cover the work and extend the testing for the full school year.

Details on the Teacher Training program:

The training focused on helping teachers familiarize themselves with active learning techniques to use in creating lessons that leverage the digital learning objects. The approach of the workshop modeled the topic – with presentations followed by sessions that engaged the teachers in group work and active practice, critique, and revision of what they were learning. The program allowed teachers to explore the digital learning objects but attempted to think about their use within an active learning context;

Summary of the teacher feedback:

At the end of the teacher workshop, participants were asked to fill a one page feedback sheet aimed to collect their input around the training activities; hence, further develop the training plan. In the first question participants were asked to rate the training activities using the scale 1 (lowest) to 5 (highest); the table below illustrates participants' response to this question. From the responses below (also the informal feedback from the participants during the workshop); it is evident that most of the participants found the new instructional strategies interesting, useful and applicable in the classroom;

Activity	Rate					Things to change
	5	4	3	2	1	
Working alone and together	7	6	10	0	0	More examples; curriculum relevant examples; consider individual differences
Jigsaw/ exploring the interactive	12	12	3	0		Better LOs accuracy; more time; add a plan for role distribution.
Induction	13	7	6	0	0	Curriculum relevant examples; better explain the task
Work Station (the Smoking Project)	13	11	0	2	1	Interesting but needs more organization; help participants with the surveys; time wasn't enough; more training; better to include the surveys; more time for internet station
The Subject focused projects	15	8	2	1	0	More training; more curriculum relevant stations; more time

** Numbers in the cells above show the number of participants who chose the specific rate; the difference in the total number of respondent to each activity line varies as some participants did not answer or had unclear response;*

The followed questions asked the participants to list 3 main successes; difficulties and suggestions to enhance the training.

Nearly 21 participants out of 27 considered learning new strategies, collaboration, and teacher networking and sharing as one of the main successes.

15 participants found the workshop to be too short/ not enough time for the training topics.

11 participants reported lack of ICT skills and considered this as one of the main difficulties.

11 participants reported distance and transportation as one of the main difficulties and recommended to use a more central location.

Participants also gave quite interesting recommendations to enhance the next training, including:

- Follow-up with the trainees
- Complete the LOs

- Conduct the training during the end-of-year vacation
- Conduct additional training workshops
- Organize ICT training workshops
- Organize English language training
- Distribute a training manual
- Help teachers to have their own computers or dedicated computers at schools

Moreover, a brief feedback was collected from the trainers during the TOT workshop; the questions mainly focused on successes, difficulties and suggestions. The trainers' feedback indicated as well that they found the training activities interesting and useful.

Among the difficulties participants mentioned the need to give more time for the training activities, Internet access, training site, plans for the next step and long training hours.

Teacher Technology Skills and Experience

During the Sana'a teacher workshop, participants received an individual survey of documenting their experience with technology and their current level of utilization of technology in their teaching practice. The survey will be replicated in the other governates and will serve as:

- 1) A baseline for documenting overall changes in teacher practice with utilizing technology
- 2) A check to ensure that adequate agreements and support are in place that will help teachers overcome any noted technological barriers that might hinder their ability to engage fully in utilizing the digital learning objects on Skool Yemen and Curiki Yeme3n during the project.

The total number of the respondents to the survey was 22, and their responses were as follow:

Findings include:

- All of respondents confirmed that their schools have computer labs, and those labs are used by the students.
- On average the computer lab in each school contains 12 PCs.
- 16 of the respondents confirmed that they can use the computer lab in the school while 3 reported that they are not allowed to use the lab.

- Only six teachers reported that they happened to use the lab with their students, the main uses were to: present their lessons using the PowerPoint, document their administrative work such as students' marks, attendance and exams.
- 16 of the respondents reported that they could not take their students to the lab because of the following reasons:
 - The computer lab is not available for their use in the subject area
 - They are not comfortable using the computer lab.
 - They don't have any content to use in the computer lab before now.
- Other reasons cited for not using the lab with their students are.
 - Lack of knowledge in using PCs.
 - No coordination between the lab technician (if available) and the teachers
 - Using the lab is frustrating because the technical support is not available.
- Only 8 of the participants have computers at home and able to use emails.
- Only 11 search the internet for interesting website, 11 are able to create word documents.
- 15 of the respondents are able to create Presentations using the PowerPoint.
- Only 8 of the participants are able to use digital camera to take photos.
- Most of the respondents do not share technology experience with their peers

Recommendations on the Training Workshops:

Overall the content of the workshop was based on the project objectives and addressed the difficult task of introducing active and student centered learning to secondary teachers in a dynamic approach that modeled the very teaching practices being described. However it was a lot to cover – perhaps too much in such a short time. In the next round of trainings with the three additional governates, we will also be adding an overview and practice in using Curriki Yemen, which will compound the time issue.

While project based learning or project oriented learning is perhaps the most important strategy in moving to active learning, we wonder if should be covered in the workshop in such detail. The use of the digital learning objects do not lend themselves for direct use in PBL, although an experienced teacher can weave them in, if she knows them well. We could do a whole workshop just on PBL and we are not sure we are spending enough time on it to establish enough of a foundation for teachers to be

comfortable implementing it. So there are mixed feelings among the team about shortening the time given to it but it is one area to consider.

We like the way PBL is modeled in the workshop; it addressed various PBL elements with well structured and concise activities; teachers also highly rated the PBL activities and it was clear during the workshops that PBL activities helped them to better understand and articulate learner-centered strategies.

Therefore, we all agree on keeping PBL, but we do not really need two practical examples (the case with teacher training workshop); we mainly need to create good curriculum based examples (refine the current trainers' examples or create new ones), have teachers go through the experience and guide them through the process to create their own examples. It would be useful as well to introduce them to other PBL techniques/ provide other examples for them to explore, apply tools to assess the project design and discuss implementation plan. If we end up using the same amount of time for subsequent workshops in the governorates we will modify the activities slightly as discussed above.

We also need teachers to explore and discuss other instructional strategies and to apply these strategies with their curriculum using the LOs; hence, we might also need to model one or two additional strategies that can be used with big number of students in the classroom. Ideally, during the workshops, teachers will design two student activities i.e. a project and an activity using other learner-centered strategies. Given that scenario, it will be quite tight to fit the training in 4 days and most probably we will need to add at least one day (preferable two days).

The second recommendation is to become much more explicit about a staff role and/or the MoE role is supporting the teachers when they return to their schools. The proposal discussed using supervisors and other MoE/Governate staff to do observations and collect data, but it did not clearly lay out a support role that would meet with teachers, help them through challenges and facilitate them in sharing with and supporting each other. This needs to be thought through and piloted during the spring semester. The teacher support system at the other 3 governorates need to be well defined and agreed upon before the next training so that the support team (school principals, subject supervisors) can participate in the training. (They participated in Sana'a but with less clearly defined roles.) Also, it would be very useful during the workshop to allocate sometime for a separate session to participating supervisors with focus on how to support teachers and to school principals on how to initiate and support teacher community of practice at their schools.

Moreover, though we touched the following issues briefly during the training, it will be more effective to add dedicated sessions to discuss what a school administration can do to better facilitate the program activities / create enabling environment and for teachers in groups to discuss specific challenges and suggest ways out.

The third recommendation is to take the Trainers' Guide and adapt it for use as a reference guide for all of the attendees so that they can refer to it themselves and use it to support other teachers in their building. The trainers guide needs further enhancement. For example we would like to modify the training activities using curriculum based examples, refine and modify activities' structure, add / replace

instructional strategies, add samples from teachers' practices in Sana', add video clips both from the training and schools, add support materials, etc.

The fourth recommendation is to plan the role of the principal or deputy with more detail. During the workshop we had a separate meeting with the principals/deputies that attended and went over a "School and Principal Guide" that we developed during the training. The feedback on this was quite good but it needs to be laid out more explicitly with specific activities that they will conduct and with check ins with project staff.

The role of the various groups who attended the first week of training (curriculum members, supervisors, university professors and the teachers from the non-participating schools) was not clearly defined in terms of tasks and role in the program vis a vis the governorates and subsequent training, once the workplan was changed. A close consultation with these groups and the MOE can create additional support to the program.

Additional Recommendations:

- With the change in the workplan there is no longer a need for four teams of trainers to be deployed simultaneously out in the governorates. However it does make sense for the next round of trainings to include a core group of university consultants and others from the MoE in providing the trainings so there is ongoing capacity within the MoE to provide this training after the project ends.
- The role of the supervisors is not clear yet. It may be a stretch given their supervisory role to use them as the primary support agents for the teachers. Instead focus them on using the observation instrument and helping with the collection of pre and post test information.
- Use the evaluation plan to obtain understandings of exactly who will be doing what regarding test administration, data collection, and data analysis.
- Develop a half day training session for supervisors and another one for school principals. Develop a process to institutionalize support system in the program.
- Teacher online learning community (the Curriki Yemen phase of INTALEQ) if well maintained can be very instrumental in promoting good practices and encouraging teachers to integrate LOs in their curriculum. However, given the condensed plan for and focus of the first phase of training, it might be much better to offer Curriki training as a second phase of the training similar to the case in Sana'a (i.e. for the other governorates to do the first phase in June and Curriki training in Jan 2010). It also might be useful to explore other tools that support online collaboration (e-mail, listserv, blogs). This should be considered if the plan gets further expanded with the addition of new partners to the GDA and additional funding.

Details on the meetings in Taiz

Dr Towfick Sufian and I traveled to Taiz for a full day of meetings on Feb 3rd. We met with at the head office of the Hayel Saeed Aname Co LTD with Ridha Kazdaghli. We discussed the progress on the project and the options for adjusting the implementation schedule for implementing in the Taiz governate. He agreed that the revised timeline made sense from several perspectives, including that it gave time to prepare the principals, education leaders, and other key stakeholders for the implementation. He also mentioned that the 5th school recommended for the project but subsequently dropped due to lack of computers, is obtaining computers on its own in order to participate in the project. He felt this is yet another sign of the value that the project is perceived to have and speaks well of the commitment local schools will be willing to make in order to sustain and extend it.

He also offered, above and beyond HAS's MOU and commitment to its portion of the GDA, to organize and fund, a summit meeting in Taiz for governate leaders, principals, and local press, along with MoE representatives and principals form Sana'a to discuss the project, demonstrate what is going on during the spring semester in Sana'a, and help increase the awareness and preparation for the rollout in Taiz. He was quite taken with this plan and felt that it was a substantial improvement from HAS's view over the original work plan.

We then met with Mr. Abdulghani Abdul Rab, the assistant General Manager Ind. Div of HAS and reviewed the progress and the new work plan, which he endorsed and supported. We agreed to follow up to discuss dates and framework for the agenda, along with whether it makes sense to also try to hold an advisory board meeting to coincide with this summit.

In the afternoon we met Dr Madhi Ali Abdossalm fand his staff at the Director of Education office in Taiz. Again we reviewed plans and the revised work plan and obtained their agreement that it made sense. We discussed specific steps to prepare the schools for the summer training and September implementation.

Overall this was a very productive set of meetings and it was fortunate that we were able to fit this trip to Taiz into the schedule.

Details on the meetings in Bahrain

From Yemen I went directly to Bahrain for a meeting with the Ministry of Education. This trip was funded separately by EDC to follow up on discussions initiated by the MoE with EDC's Center for Children and Technology about possible advisements to their e-Learning initiatives. EDC had responded to a preliminary meeting in New York with Ahmed Hasan Ahmed, the manager of the KING HAMAD'S SCHOOLS OF THE FUTURE PROJECT at the MoE. We had responded to three specific areas of interest –

- 1) A potential workshop for the ministry team on best and promising practices in ICT and education taking an international perspective and focusing on 21st century skills and systems.
- 2) A workshop program for the research and evaluation unit within the MoE on evaluation skills for looking at, and monitoring, technology's impact on teaching and learning.
- 3) Possible extensions and adaptations of the Yemen INTALEQ model for improving secondary school mathematics and science using digital learning objects and support for active teaching pedagogies.

My meetings with the MoE on Feb 8th were with Ahmed and with his supervisor, Mr Khalid Khanfar. They demonstrated Baharain's current e-learning system built directly upon Jordan's Education Initiative and utilizing the Eduwave learning management system.

They were interested in pursuing all three areas of the EDC response. The first two initiatives were shared with other parts of the MoE and responses were being gathered. An internal project review is now underway so they expected that it would be late April or May before a detailed response and next steps could be ready for discussion. However they did want to proceed with discussions of the INTALEQ project immediately and would be very interested in coming on a visit to Yemen to hear more about the project and how it might work in Bahrain. We discussed the proposed summit meeting in Taiz as one option for them. That would be ideal as it would reinforce the profile of the project in Yemen with key stakeholders and also provide a more comprehensive view of the project for the Bahraini MoE.

Possibilities include treating this as a new initiative, with EDC contracting directly with the Bahrain MoE. Even more tantalizing are possibilities for extending the INTALEQ GDA into a regional component that builds on the work in Yemen and extends it out to the GCC and other states in the Mideast.

Appendix B

SCHOOL PROFILE

Innovations in Technology-Assisted Learning for Educational Quality Project (INTALEQ)

School Name	School Type	Region	Tel:		Lab info				# of Teachers	M&S Teachers	10th Grade Teachers		# of 10th Grade Classes	# of Students	10th Grade Students
			Land line	Mobile	#of Labs	#of PCs	Condition	Internet			M	S			
Alzahra'a	Girls	Sana'a	1236467	777732224	1	11	Good	Available 256 (upgraded to 512)	147	12	1	3	4	2700	218
Sinan Hadroum	Boys	Sana'a	01301547	733564394	1	11	Good	Available 256 (upgraded to 512)	93	11	1	3	4	3988	390
Omer Bin-Abdulaziz	Boys	Sana'a	01354690	77001743	1	11	Good	Available 256 (upgraded to 512)	113	15	4	6	11	4000	900
Alquds	Girls	Sana'a	01469165	733443157	1	11	Good	Available 256 (upgraded to 512)	100	12	1	3		1300	171
Alkhansa'a	Girls	Sana'a	01253384	777388233	1	11	Good	Available 256 (upgraded to 512)	107	13	2	5	6	2222	298
Bakatheer	Girls	Aden	02251594	777265271	1	11	Good	Available 256 (upgraded to 512)	50	24	3	5	6	760	245
Marib	Boys	Aden	02232003	733875523	1	11	Good	Available 256 (upgraded to 512)	74	21	4	6	10	1200	465
Batheeb	Girls	Aden	02232003	733532540	1	11	Good	Available 256 (upgraded to 512)	45	13	2	3	5	450	160
Alahdal	Boys	Aden	02305780	73344328	1	11	Good	Available 256	48	14	2	3	8	1165	420
Alshaab	Girls	Aden	02360054	02380402	1	11	Good	Available 256	63	9	1	3	3	1400	192
Almeana	Girls	Mukalla	05316315	05302415	3	59	The project Lab needs maintenace	Available 256	67	20	2	5	7	1100	240
Buliqise	Girls	Mukalla	05352753		2	40	Needs maintenance	Available 256	90	14	2	3	4	1300	180
Bin-Shihab	Boys	Mukalla	05352754	777393244	1	20	Needs maintenance	Available 256	60	18	4	6	12	2078	560
Bin-Seena'a	Boys	Mukalla	05370646	777460051	1	30	Needs maintenance	Available 256	54	18	2	3	7	988	373
Fowa	Girls	Mukalla	05370494	733785574	3	54	Needs maintenance	Available 256	100	13	2	5	5	2028	220
Saba	Boys	Mukalla	05326066	711753250	1	15	Needs maintenance	Available 256	65	16	3	5	7	7	290
Zaid Al-Mu-Shepor	Girls	Taiz	02205772	777006922	1	25	Brand new	Available 256	198	31	4	6	10	3811	574
Asma	Girls	Taiz	02215330	77721259	1	11	Brand new	Available 256	103	12	3	3	3	1700	145

Appendix C

Teacher Technical Capacity Survey

No	Item		Yes	No	Once a week or even more often	On average once or twice a month	once or only a few times	NEVER	ONCE	SEVERAL TIMES	MANY TIMES
1	My school has a computer lab for use with students:		23	0							
2	The computer lab has how many computers? On average 12 PCs Per Lab										
3	My school also has computer(s) available for teacher use?		16	3							
4	I have already used the computer lab with my students? YES NO		6	16							
	If YES, how often have used the computer lab with students:				5		3				
	How have you used the computer lab with your students in the past?				7						
	If NO, why not:										
	The computer lab is not available for my use in my subject area	4									
	I am not comfortable using the computer lab	2									
	I have not had any content to use in the computer lab before now	7									
	Other reasons for not using the lab:	1- Lack of PC skill knowledgq 2- Lack of coordniation between teachers and lab technician.									
5	I have access to a computer at home		8	13							
6	I know how to use the following computer tools:										
	Email:		8	13							
	Search the Internet for interesting web sites:		11	9							
	Create a WORD document:		11	9							
	Create a PowerPoint document:		15	5							
	Take a picture using a digital camera		8	12							
7	shared with me an interesting web site that is related to the subject area							16	4	1	
8	another teacher an interesting web site that is related to the							19	1	1	

Appendix D

Pictures from Project Activities

Pictures of January TOT



Pictures from February Teacher Training



Pictures of Students Taking the Pretest

