ANNEX 2: Project Design Matrix ver.2 (Revised on 22 December 2006)

Project Title	Project for Enhancing Quality in Teaching through TV Program ("EQUITV Project")		
Project period(provisional)	July, 2005 – November, 2008 (about 3 and half years)		
Target Beneficiaries	Students and Teachers in the Project Primary Schools in Bougainville and East Sepik Province		
Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<Super Goal> Quality of classroom teaching is improved in the primary schools in the country through distance education utilizing TV program.	1. Increase of the number of primary school students who took lessons utilizing TV program (TV lessons) in the country 2. Increase of the number primary school teachers who gave TV lessons in the country 3. Positive change of teachers and students	・Records in DOE based on reports from provincial education offices ・Report on monitoring produced by DOE monitoring team in charge ・Achievement test of students	Priority on basic education in long-term socio-economic development strategy of PNG will not change
<Overall Goal> Quality of classroom teaching is improved in the primary schools of the project provinces through distance education utilizing TV program.	1. Increase of the number of primary school students who took TV lessons in the project provinces 2. Increase of the number of primary school teachers who gave TV lessons in the project provinces 3. Positive change of teachers and students	・Statistical records of provincial education offices ・Report on monitoring produced by DOE monitoring team in charge ・Achievement test of students	Priority on basic education in long-term socio-economic development strategy of PNG will not change
<Project Purpose> Quality of classroom teaching is improved in the project schools through the appropriate use/application/ introduction and regular delivery of distance education utilizing TV program.	1. Increase of the number of primary school students who took TV lessons in the project schools of the provinces 2. Increase of the number of primary school teachers who gave TV lessons in the project schools of the provinces 3. Positive change of the project school teachers (knowledge on the teaching subject / teaching skills / classroom organization) 4. Positive change of the project school students (academic understanding and achievement / attitudes and behavior)	・Statistical records of provincial education offices ・Report on monitoring and evaluation results ・Base line and post-impact study reports ・achievement test of students	1. DOE continue the support to distance education through use of media as appropriate means in the Education Reform 2. Provincial education offices take initiative to expand the appropriate use/application/ introduction and regular delivery of distance education utilizing televised broadcasting in the provinces

<Outputs> 1. TV-lessons of high quality for students are regularly broadcasted	1. Production and transmission of TV lesson programs 2. Improvement of capacity of DOE, NEMC and PNGEI for educational TV program production and management 3. Improvement of knowledge and skill of the model teachers 4. Produce Manuals and Guidelines of a series of activities for counterparts	・Records of TV-lesson production and transmission ・Report on monitoring and evaluation on the training ・Production of guidelines and manuals ・Record of training for systemizing project activities.	1. The EM TV's policy to provide free transmission time for the educational programs will not change 2. Teachers of model & project primary schools who are in charge of this project do not change within a short period 3. The public peace in the project provinces is maintained
2. Teaching methods of teachers in charge of the TV- lesson class in the project schools is improved	1. Production and distribution of guidebooks for project schools 2. Production and transmission of TV lesson programs for teacher training 3. Improvement of knowledge and skill of the TV program receiving teachers 4. Improvement of capacity of inspectors for monitoring 5. Conduct planned number of monitoring	・Records of production and distribution of guidebooks ・Records of production and transmission of TV programs for teacher training ・Records of training ・Report on monitoring and evaluation	
3. Environment for regularly receiving the TV-lessons and teacher-training programs is enhanced	1. Proper installment of TV receiving equipment 2. Increase of assistance for project schools by community people 3. Proper maintenance of TV sets 4. Improvement of capacity of inspectors and maintenance team members for monitoring	・Procurement & distribution records of TV receiving equipment ・Records of training and activities to raise community and family awareness ・Records of community participation ・Report on monitoring and evaluation	
4. Feasibility of expanding distance education utilizing TV Program is examined	1. Submission of the feasibility study report on nationwide expansion of TV lessons 2. Submission of the report on developing a teacher-training program (DEPI) through distance education utilizing TV program	・The feasibility study report on nationwide expansion of TV lessons ・The report on developing a teacher-training program through distance education utilizing TV program ・ Base line and post-impact study reports	

<Activities> 1-1 Organize trainings for staff of NEMC, CDD/DOE and PNGEI, on educational TV program production and management 1-2 Organize trainings for Model teachers at the model primary schools on effective classroom teaching 1-3 Produce TV-lessons program (science and math for G7& G8) 1-4 Revise the produced TV-lesson programs (science and math for G8) 1-5 Systemize a series of the project activities 2-1 Produce and distribute a guidebook for the project schools 2-2 Produce TV programs for teacher training 2-3 Organize trainings for the project school teachers utilizing TV-lesson program 2-4 Organize trainings for inspectors and monitoring team members on monitoring of TV-lesson classes 2-5 Undertake monitoring of TV-lesson classes 3-1 Procure and provide TV monitors, antennas and anti-theft TV cages to the project schools 3-2 Organize activities to raise awareness of community and family members of the project schools on the importance of education 3-3 Organize trainings for inspectors and maintenance team members on monitoring of maintenance of TV sets 3-4 Organize training on monitoring of maintenance of TV sets 3-5 Undertake monitoring of maintenance of TV sets 4-1 Conduct a baseline survey 4-2 Submit the report on developing a	<Inputs> PNG Side: (1)Assignment of counterpart personnel (include full time staff) (2)Assignment of administrative personnel (3)Availability of NEMC facilities and staff for project operation (4)Expenses necessary for the implementation of the project (personal expenses, travel expenses, allowances and accommodation for PNG counterpart personnel) (5)Expenses necessary for maintenance and security measures for TV receiving equipment in project schools	<Inputs> Japanese Side: (1)Dispatch of experts a)chief adviser (Japanese side project manager) b)education TV program production c)mathematics d)science e)teachers' training on teaching methods f)monitoring & evaluation g)school management h)audio visual equipment maintenance (2)Training of counterpart personnel in Japan and/or third country (3)Provision of equipment	<Preconditions> 1. Financial support, staffing and other service in kind for execution of this project from DOE maintain present level of operation or more 2. Model classroom with sufficient facility are always available for the TV program production and other project purposes 3. The project schools prepare generators for TV sets

teacher-training program through distance education utilizing TV program (DEPI) 4-3 Plan and organize activities to encourage schools and community in areas without TV sets to start TV lessons 4-4 Hold Monitoring and Evaluation Seminars 4-5 Conduct a post-project impact study			

ANNEX3-1: Evaluation Grid: Achievement of the Project and Process of Project Implementation

Papua New Guinea: Project for Enhancing Quality in Teaching through TV Program
Results of Evaluation Grid
I Verification of Accomplishments and Implementation Process

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
Super Goal: Quality of classroom teaching is improved in the primary schools in the country through distance education utilizing TV program.				
	1. Increase of the number of primary school students who took lessons utilizing TV program (TV lessons) in the country			
			Transition of the number of students who receive the TV lesson in the country	As of 11 August 2008, schools utilizing the TV lessons are as follows: receiving schools in this project (67); awareness schools in this project (70); schools in the partner development project (28); schools in grass roots grant (110); and the others (12). They are 287 in total covering 17.3% of all the primary schools in PNG (1 651). The estimated number of students who receive TV lessons in the country is increasing as follows: 4,565 in 2006; 9,309 in 2007; and 19,695 in 2008.
	2. Increase of the number primary school teachers who gave TV lessons in the country			
			Transition of the number of teachers who receive the TV lesson in the country	The number of teachers who receive the TV lessons in the country is increasing as follows: 310 in 2006; 618 in 2007; and 1 348 in 2008.
	3. Positive change of teachers and students			
			To confirm what kind of effects can be seen by implementation of TV lesson from the long term viewpoint including the partner ship project	Although the situations vary depending on schools, teachers in some schools discuss teaching strategies and how to utilize TV lessons effectively. Some teachers deliver lessons with confidence. Students learning through TV programs are motivated as they can see how students in the model school learn.
Overall Goal: Quality of classroom teaching is improved in the primary schools of the project provinces through distance education utilizing TV program.				
	1. Increase of the number of primary school students who took TV lessons in the project provinces			
			Transition of the number of students who receive the TV lesson in the non-pilot schools in the pilot provinces	The number of the awareness schools that bought TV equipment by themselves is 70 in total (63 in the East New Britain province and 7 in the East Sepik province). The total number of the students in these awareness schools and students in other schools receiving TV lessons except the project receiving schools is estimated 6 613 in 2008.
	2. Increase of the number of primary school teachers who gave TV lessons in the project provinces			
			Transition of the number of teachers who receive the TV lesson in the non-pilot schools in the pilot provinces	The number of the teachers in schools that receive TV lessons except the project receiving schools is 458 in 2008.
	3. Positive change of teachers and students			
			Can some positive change be seen in the non-pilot schools in the pilot provinces?	According to the interviews with teachers in awareness schools, positive changes are observed in teaching methods and students learning attitudes.
	Complement	**To confirm the strategy to expand the TV lesson in the pilot province, especially focusing the budget**		
				Both ARB and ESP planned to expand TV lesson programs to the whole region and province respectively. The ESP provincial government and ABG approved them in December 2007. They will implement these plans in 2008 and 2009.
		What kind of restriction to introduce the TV lesson exists according to the area condition with or without intermediation apparatus or antenna?		
			How can TV receivers manage that?	It is reported that initial cost to buy necessary equipment and running cost for generator to get electricity are obstacles to introduce TV lessons. From the interviews conducted, although a satellite TV signal receiving

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
				equipment is expensive for school, even some remote schools bought a TV set and an antenna and bear the running cost. Prioritization of each school matters.
Project Purpose: Quality of classroom teaching is improved in the project schools through the appropriate use/application/ introduction and regular delivery of distance education utilizing TV program.				
*Note: The project was implemented in two provinces and one region: East Sepik, Autonomous Region Bougainville and East New Britain. Because East New Britain is an awareness province, the evaluation of the project purpose focuses only on East Sepik and Bougainville.				
	1. Increase of the number of primary school students who took TV lessons in the project schools of the provinces			
			Transition of the number of students who receive the TV lesson in the pilot schools in the pilot provinces	The number of receiving school students reached to 11 194 in total as follows: 2 885 in 2006 (Grade 8); 2817 in 2007 (Grade 8); and 5,492 in 2008 (Grade 7 and 8).
	2. Increase of the number of primary school teachers who gave TV lessons in the project schools of the provinces			
			Transition of the number of teachers who receive the TV lesson in the pilot schools in the pilot provinces	The numbers of receiving school teachers are as follows: 202 in 2006 (Grade 8) and 2007 (Grade 8); and 404 in 2008 (Grade 7 and 8).
	3. Positive change of the project school teachers (knowledge on the teaching subject / teaching skills / classroom organization)			
		Is the knowledge level of subjects of the pilot school teachers improving?		
			To analyze from comparison between base-line and end-line survey To confirm by lesson observation	Many of the site leaders and teachers interviewed have commented that subject content knowledge of teachers was reinforced by TV lessons. From lesson observations no particular problems were came out.
		Are the pedagogical and lesson management skills of the pilot school teachers improving?		
			To analyze from comparison between base-line and end-line survey To confirm by lesson observation	The Project monitoring from base-line and end-line surveys shows that receiving teachers demonstrated well balanced lesson management such as "classroom management", "learning activities", "questioning skill" and "time management". From lesson observations, the Team has confirmed that the receiving teachers had some capacities such as teaching strategy, class management, questioning technique to facilitate students to think along OBE concept, etc.
	4. Positive change of the project school students (academic understanding and achievement / attitudes and behaviour)			
		Can some positive change in the students' learning attitude be observed by TV lesson?		
			To analyze from monitoring results and comments of persons concerned To confirm by lesson observation	Receiving teachers commented that students speak actively, practice group activity together with boys and girls, and learn more quickly competing with model students. The Team also has observed that receiving students teach and learn in group by themselves.
		Is the students' interest to math and sciences increasing by TV lesson?		
			To analyze from comparison with the non-pilot school in the end-line survey and monitoring results To confirm by lesson observation	Most of the receiving students comment that they like TV lessons very much. Some students said, although, that science lessons were very interesting, they were sometime frustrated because they can not conduct experiments that were conducted in TV lessons. Some said that some TV lessons were difficult to understand without explanations by the classroom teachers and that lessons by the classroom teacher were easier to understand than TV lessons.
		Is the students' academic performance improving by TV lesson?		
			To analyze from comparison with the non-pilot school in the end-line survey	There are many comments from persons concerned that students' academic performances are getting better through TV lessons. From the data of base-line and end-line surveys, the tendency is observed that the achievements of

<table>
<tr><th colspan="3">Evaluation Questions</th><th>Basis for judgement</th><th>Results</th></tr>
<tr><th>Major</th><th>Minor</th><th>Detail</th><th></th><th></th></tr>
<tr><td></td><td></td><td></td><td></td><td>receiving students in the examination are better than those of non-receiving students, and in the results of mathematics in 2006 the improvement of receiving students is statistically greater than that of non-receiving students.</td></tr>
<tr><td colspan="5">Outputs</td></tr>
<tr><td colspan="5">1. TV-lessons of high quality for students are regularly broadcasted</td></tr>
<tr><td></td><td colspan="4">1. Production and transmission of TV lesson programs</td></tr>
<tr><td></td><td></td><td></td><td>To summarise TV lessons number</td><td>Due to the external factors such as the delay of disbursement of DOE budget, electric power failure and others, some activities scheduled had to be changed. However, the Project produced Grade 8 TV programs (208) and revised half of them. The Project is currently producing Grade 7 TV programs (133 as of the date) as planned.
(Appendix 1:List of Production and On air)
The rate of utilization of TV lessons gathered by the monitoring committee in the East Sepik province and the Autonomous Region of Bougainville is as shown below.

2006 utilizing TV lesson rate 1st End line servery in Oct.2006
<table><tr><th></th><th>Every time</th><th>Often but not every time</th><th>Not much</th><th>NA</th></tr><tr><td>Bougainville</td><td>47%</td><td>32%</td><td>9%</td><td>12%</td></tr><tr><td>East Sepik</td><td>32%</td><td>44%</td><td>9%</td><td>17%</td></tr></table>
2007 utilizing TV lesson rate 2nd End line servery in Oct.2007
<table><tr><th></th><th>Every time</th><th>3 times/week</th><th>1-2 times</th><th>None</th><th>NA</th></tr><tr><td>Bougainville</td><td>70%</td><td>3%</td><td>6%</td><td>12%</td><td>9%</td></tr><tr><td>East Sepik</td><td>63%</td><td>11%</td><td>11%</td><td>4%</td><td>11%</td></tr></table>
Some equipment for TV program development that was provided by the partner project became old.</td></tr>
<tr><td></td><td colspan="4">2. Improvement of capacity of DOE, NEMC and PNGEI for educational TV program production and management</td></tr>
<tr><td></td><td></td><td colspan="3">Is the skill to develop TV lesson program of Media centre improving?</td></tr>
<tr><td></td><td></td><td></td><td>To analyze the quality of TV lessons by DVD and comments from receiving teachers</td><td>The staffs of TV program production have learnt the new methods of production such as the live-style filming and production, count down timer, picture in picture, etc. Moreover, they can manage equipment in NEMC and have gained capacity to produce TV programs and deliver the program tape to EMTV for broadcast by themselves.
Furthermore, the cooperation between TV program production members and model teachers could be established well through rehearsal, and sharing the information about lesson programs before filming, both members could understand program content enough. The quality of Grade 7 TV programs that are being developed now are better than that of Grade 8 TV programs that were developed in the first year.
On the other hand, model teachers can have improved their experiment methods, because of that it is getting more difficult to film the experiment clearly with the live-style method.
Instructors of PNGEI can manage and produce DEPI program, and the contents of DEPI is relatively absolute because of its lecture style.</td></tr>
</table>

<table>
<tr><th colspan="3">Evaluation Questions</th><th rowspan="2">Basis for judgement</th><th rowspan="2">Results</th></tr>
<tr><th>Major</th><th>Minor</th><th>Detail</th></tr>
<tr><td></td><td></td><td></td><td></td><td>The picturing have been improved also through the better classroom studio conditions such as putting more lights and painting wall to relevant to the background colour for proper shooting.</td></tr>
<tr><td></td><td colspan="4">3. Improvement of knowledge and skill of the model teachers</td></tr>
<tr><td></td><td></td><td colspan="3">Is the knowledge level of subject of the model teachers improving?</td></tr>
<tr><td></td><td></td><td></td><td>To analyze from records of trainings and comments from Persons Concerned (PCs)
To analyze the quality of TV lessons by DVD and comments from receiving teachers</td><td>According to Japanese experts, the level of subject content knowledge of the model teachers has improved although it is not yet enough as expected, reviewing the following TIMSS results. The model teachers themselves comment in the interview that to find out subject contents errors is not easy for them, and the support from the subject experts is still required.
<table><tr><th>Science model teacher</th><th>Physics</th><th>Biology</th><th>Chemistry/Earth science</th></tr><tr><td>A</td><td>58</td><td>74</td><td>-</td></tr><tr><td>B</td><td>78</td><td>78</td><td>85</td></tr><tr><td>C</td><td>64</td><td>91</td><td>82</td></tr><tr><td>D</td><td>70</td><td>61</td><td>82</td></tr></table>(Results on TIMSS 2003, Grade 8 level)</td></tr>
<tr><td></td><td></td><td colspan="3">Are the pedagogical and lesson management skills of the model teachers improving?</td></tr>
<tr><td></td><td></td><td></td><td>To analyze from records of trainings and comments from PCs
To analyze the quality of TV lessons by DVD and comments from receiving teachers</td><td>The model teachers repeat the following cycle every day; analysis of teaching contents => development of lesson plan => rehearsal => revise of lesson plan => lesson delivery => reflection meeting. They can deliver the lessons as planned controlling the progress and timing.
They can prepare lesson and develop materials in shorter time compared with before. One of the reasons is their improvement in IT skills. Through the internet, they can collect necessary information.
On the other hand, some model teachers are likely to lose flexibility and fluency and are not so good at speaking attractively because of the following reasons:
- They have to speak right English correctly;
- They have to speak clearly and slowly; and
- They have to coordinate with the production staff.</td></tr>
<tr><td></td><td colspan="4">4. Produce Manuals and Guidelines of a series of activities for counterparts</td></tr>
<tr><td></td><td></td><td></td><td>To confirm how the guidelines are utilized and how the activities are improved from interview and/or working record</td><td>Guidelines for four committees have been developed for systematization of each task. Through the developing process, members have understood the workflow and their own responsibilities. So members can afford to do rehearsal.</td></tr>
<tr><td colspan="5">2. Teaching methods of teachers in charge of the TV- lesson class in the project schools is improved</td></tr>
<tr><td></td><td colspan="4">1. Production and distribution of guidebooks for project schools</td></tr>
<tr><td></td><td></td><td colspan="3">To check the distribution situation</td></tr>
<tr><td></td><td></td><td></td><td>From the distribution record and comments of the receivers</td><td>The first whole cycle to develop "TV Teacher's Handbook" and "TV Student's Worksheet" is done, and they have been revised based on the validation workshop results.
There was a delay in the distribution of TV Teacher's Handbook and TV Student's Worksheets. The main</td></tr>
</table>

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
				reasons of the delay is as follows: - Delay in development by model teachers; - Delay in checking the drafts by curriculum staff and revise by model teachers - Delay in printing; - Air Niugini cargo problems; and - Delay in the distribution from the provincial education office to each school It is hard for receiving teachers to be prepared for TV lessons without these materials. The relay also affects the effectiveness and efficiency of students learning. In addition, increasing the number of the awareness schools covered shortage of the budget for printing, and the Project could not deliver student's worksheet to each student. It is absolutely negative effect for students learning. In the East Sepik, one school copied worksheets and handed out them to all students. These students results in the national examination got the first place in the province.
		How is the quality of guidebooks?		
			To analyze from comments from users	The first whole cycle to develop "TV Teacher's Handbook" and "TV Student's Worksheet" is done, and they have been revised based on the validation workshop results. Some teachers said that these materials were very useful for teachers as the materials embody the new content of the curriculum by Education Reform. On the other hand, the quality of materials still needs to be improved, for example, from the viewpoint of learning sequence.
	2. Production and transmission of TV lesson programs for teacher training			
		To check the quality of TV lesson programs for teacher training		
			To make a summary of transmission records To check the quality from DVD and comments from receivers	The numbers of the developed TV programs are as follows: 6 curriculum issues; 11 DEPIs in 2006; 3 pedagogy of science and mathematics; 8 utilization of TV lesson and equipment; and 11 DEPIs in the 2007. Instructors of PNGEI can manage and produce DEPI program with the production members, and the contents of DEPI is relatively absolute because of its lecture style.
		How is the effect of Hint and Tips program after the renewal of PDM?		
			To confirm the production situation and utilization by receivers	In 2006, the Project produced TV training programs on curriculum development. In 2007, together with the counterparts, training programs was developed that were directly related to lesson improvement. The content of these programs provide lesson hints based on the experience of model teachers who have developed teaching materials, and prepared, conducted and reviewed model lessons. These are condensed into explanations of 3-5 minutes in a training program called "Hint and Tips: Program lesson improvement". For hints on utilizing TV, and maintaining and managing the equipment, the Project produced program called "Utilizing TV" and "Maintaining and managing the Equipment". Transmission of these programs was begun before the model lessons. However, in the schools the study team visited, teachers didn't watch the program because they were busy for TV lesson follow-up. They said that the timing of the program was not appropriate.
	3. Improvement of knowledge and skill of the TV program receiving teachers			
			Same to the Project Purpose 3	
	4. Improvement of capacity of inspectors for monitoring			
			To analyze from monitoring results and comments from PCs	The provincial monitoring members can develop the monitoring plans. Some standard officers advised teachers on how to facilitate TV lessons.

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
				Experts of teaching method evaluation taught the standard officers in ARB and ESP the methods of evaluation of teaching capacity, and they also implemented the method in the ordinary lessons (Non-TV lessons). The study team observed lessons with standard officers, but the capacity of their lesson evaluation could not be reconfirmed.
	5. Conduct planned number of monitoring			
		Do the monitoring results contribute to the improvement of the activities?		
			Is it systemized?	Regular monitoring is conducted every two months. However, the rate of data collection is about 30% in Bougainville and about 50% in Sepik in June and July 2008. The data are utilized at the administrative and coordination level of the Project, but not at the working committee level. Base-line and end-line surveys by the monitoring members have been conducted as planned, and the Project has made the reports and submitted to JCC, Steering Committee and Project Management Committees. The results were also fed back to site leaders. As the model teachers and production members hardly visit to local classrooms with very limited time, the situation of TV receivers cannot be reflected to the program production.
		To check the monitoring capacity of Head teachers		
			To confirm training situation from the monitoring results To check the capacity observing lessons with study team	The study team observed lessons with site leaders. Some site leaders manage schools very well and lead teachers to improve lesson quality. But, also there are some site leaders who usually don't watch teachers' TV lessons. As a whole, the study team could not confirm whether the capacity of lesson observation of site leader is enough or not.
	Complement	**How is the situation of TV program utilization in the pilot schools?**		
			Don't teachers leave TV program just on? To confirm from the lesson observation	From the observation, the situation of the utilization of the TV lessons is very different depending on schools. In some schools, teachers just switch on TV and give little explanation and follow-up. On the other hand, in some schools where site leaders intend to utilize TV lessons effectively, the way of utilization by teachers excellent with enough preparation and follow-up. And their students' participation in the lessons is active and their understanding level is high. The quality of some grade 8 programs is very low in pedagogical aspect, and it makes receiving teachers confuse. So they cannot utilize well or follow-up.
			Any challenge	There are comments as follows: - They cannot receive Teacher's Handbook and Student's Worksheet before TV broadcast; - TV lesson is very fast, so students cannot take note. The time for exercise is very short; and (Some teachers take memo in the blackboard for students) - There is no equipment for experiment in local school. (They want to do same experiment).
3. Environment for regularly receiving the TV-lessons and teacher-training programs is enhanced				
	1. Proper instalment of TV receiving equipment			
			To analyze procurement and distribution records of TV receiving equipment	Provision of TV receiving equipment was generally completed as planned.
	2. Increase of assistance for project schools by community people			
		What kind of enlightenment activities has Remote School Assistant Committee implemented?		
			To analyze from activity records Are enlightening tools utilized?	Remote School Assistance Committee produces several awareness tools for receiving schools as follows: - Flip chart (English and Pidgin);

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
				- Video program; and - Best practice of BOM. The study team observed awareness activity by a Remote School Assistant Committee member and a provincial project coordinator. They implemented very clear and simple presentation, and answered to questions appropriately.
		Is the funding support from the community increased?		
				In the areas where the transmitters' antennas were built, TV sets are prevailed to individual house. Hens, the income earned through TV shows in school is decreasing. Some BOMs implemented fund-raising activities such as exchange baskets, copra and cocoa selling, etc. Beside these activities, some BOMs supply tables and chairs for TV rooms, security cost or activity, awareness activity to community, and so on. According to the interview, almost all schools have budget more than 50,000 kina, and they can afford to cover maintenance cost from 1,000 to 2,000. Many receiving schools buy additional TV sets by themselves.
	3. Proper maintenance of TV sets			
		To what extend is the maintenance handbook distributed and utilized?		
				Maintenance handbook was developed to improve maintenance capacity at the school level. There was comment that it was useful for school level maintenance.
	4. Improvement of capacity of inspectors and maintenance team members for monitoring			
		Do the service teams contribute to solve problem?		
				The Service teams in the provinces can address minor problems and adjustments, but in the case of major problems with TV equipment, service team just provides advice to the schools what they should do.
		How can parts for maintenance procured in local?		
				In Bougainville, problems with TV sets trouble cannot be repaired. In Sepik, some simple parts are available, but not good quality.
4. Feasibility of expanding distance education utilizing TV Program is examined				
	1. Submission of the feasibility study report on nationwide expansion of TV lessons			
			What is preventing factor? What is the condition to expand?	The report is being developed as scheduled. Schools have budget to buy TV sets and manage maintenance cost, but the transmitters' towers or satellite TV receiving equipment need to be supplied by the national or provincial governments. Utilizing antenna, sometimes receiving TV signal is not stable, and a very long antenna pole is necessary. Technically it is not very easy. In Bougainville, schools cannot watch TV without expensive satellite TV signal receiving equipment, and the receiving school got necessary equipment from the Project. That is why other schools tend to lose their motivation to utilize TV lesson program. On the other hand, in East Sepik, school can watch TV just with antenna, so they don't have particular hurdle to participate in TV programs. On the other hand, In PNG the new mobile phone is expanding the cover area in a short time. Having contract with this company, TV program can use the transmit tower with lower price, and make coverage wider.
	2. Submission of the report on developing a teacher-training program (DEPI) through distance education utilizing TV program			
			What are preventing factors?	The report was already submitted.

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
			What are the conditions to expand?	The present broadcasting time from 2 to 3 PM of DEPI TV programs is within the instructional hours for teachers, so they cannot watch the programs. Teachers in the younger generation have already diploma. Teachers who need DEPI program are ones who need diploma as a qualification for promotion, for example to the site leader or standard officer.
Achievement of Input				
	Japanese Side			
			Comparison between the actual implementation and the plan 1. Experts 2. Training in Japan 3. Equipment 4. Local cost	Since this project has many activities, the input is also relatively high comparing with other projects with similar project period 1 . Experts: 11 persons (Appendix 2:List of Japanese Experts) Some expert members exchanged on the way, but the substitutes functioned appropriately. There was not any negative effect. 2 . Training in Japan: 5 persons, October 22, 2006 – November 13, 2006 (Appendix 3:Counterpart Training in Japan) 3 . Project Budget: 142,292,000(YEN) (Appendix 4:List of Project Budget) 4 . Equipment provided by JICA (Appendix 5: List pf Major Equipment Provided by JICA)
	Papua New Guinea			
			Comparison between the implementation and the plan (1)Assignment of counterpart personnel (include full time staff) (2)Assignment of administrative personnel (3)Availability of NEMC facilities and staff for project operation (4)Expenses necessary for the implementation of the project (personal expenses, travel expenses, allowances and accommodation for PNG counterpart personnel) (5)Expenses necessary for maintenance and security measures for TV receiving equipment in project schools	1 . Counterpart (Appendix 6:List of Papua New Guinea Counterpart) 1) Management committee 1-1 Joint Coordinating Committee member 1-2 Steering committee member 2008 in July 1-3 Project management committee 2) Working committee 2-1 Subject committee Curriculum Officer Model teacher 2-2. TV Production and Equipment management committee 2-3 Remote school assistant committee 2-4 Monitoring committee 2-5 DEPI Course by a Distance Mode Study committee 3) TV Model Provinces 3-1 Autonomous Region of Bougainville 3-2 East Sepik Province 4) Awareness activities Province 4-1 East New Britain Province 2 . Availability of NEMC facilities and staff for project operation 3 . Expenses necessary for the project (travel expenses, allowances and accommodation for PNG counterpart personnel)

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
				Year GoPNG (K) Source 2005 50,000 Quality Component 2006 150,000 Quality Component 2007 800,000 Counterpart 2008 500,000 Counterpart Total 1,500,000
Process of Implementation				
	How did project activities advance compared with the plan at the beginning (activity plan of PDM)?			
		Comparing with the plan, what is the activity delayed?		
			How has it been managed?	Budget disbursement from DOE delayed in 2006 and 2007. Particularly in 2007, all activities in the pilot provinces and region were postponed until October. Accordingly, the trainings were implemented after all the TV programs had been broadcasted. Thus, training effect was not utilized in 2007.
	Isn't there any problem on technical transfer?			
			Could C/Ps get sufficient knowledge and technique from Japanese experts?	Because the assignments of Japanese experts are commonly short shuttle type, C/P could not always receive necessary assistance when they needed. Some C/Ps are not full time, so there were cases Japanese experts could not transfer their technique efficiently.
	Isn't there any problem on management system?			
		Isn't there any deviation in the decision-making?		
				As the previous acting manager of NEMC did not agree with the concept of the Project, the project activities sometimes were not implemented smoothly and thus it affected the project efficiency negatively.
		Has the communication in the Project been maintained appropriate?		
				At the beginning of the Project, there were 3 coordination committees and 8 working committees. However, for the purpose of efficiency, the working committees were merged into 5 in September 2006. According to the experts, the more technical translate proceeded, the more active C/Ps attitude became. Now, closing to the end of the Project, they engage their activities thinking by themselves.
	Ownership of Partner Country Enforcement Organization			
		Good example in each level;		
			DOE level	DOE developed the draft versions of Media Education Policy, Sustainable Plan, and Action Plan, and started to prepare expansion nationwide.
			Project team level	Each stakeholder is familiar with one's duty, and the Project team maintains high motivation.
			Province level	Both ARB and ESP planned to expand TV lesson program to whole province, and the provincial and regional governments approved it in December, 2007. They will implement this plan in 2008 and 2009.
			School level	Many schools bought TV sets by their own budget. Some schools share the experiences with all teachers in school meeting, and others started school based training utilizing DVD recorder.
		Is adjustment for trouble quick enough?		
				Media centre was suffered from robbery for 2 times. DOE considered this case serious, and strengthened security with counterpart budget (50,000kina).
	Are appropriate counterparts assigned?			
		Are their original capacities are sufficient?		

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
				The previous director of media centre did not have the same concept with the Project members, so sometimes the project activities could not be implemented smoothly and the project efficiency was not high. At the planning project, the subject contents knowledge level of model teachers might not be investigated enough. To support them to implement planned activities, extra inputs like basic training of subject contents had to be done.
		Could overload of media center staff be solved?		
				In the first half of the project period, NEMC staff was overloaded. It was mitigated in 2007 because of the following measures: - Project period was extended; - Model teachers improved their subject knowledge and teaching skills; - Activity processes become more efficient; and - Collaboration between TV production team and model teachers enhanced the productivity.
		Has the position of the model teachers been established?		
			To check from the documents, and to confirm from the interview	Model school was officially approved in 2007, and 8 model teachers were assigned to the model school. Three positions; head teacher, senior teacher and teacher, were approved. Special inspection was conducted with 3 teachers, and they got senior certification. Now there are 5 senior teachers in total. Special allowance payment from 2008 for model teachers was approved by DOE. Scholarship for model teachers was promised. It was decided that model teachers entered distance education in Port Moresby university since February, 2009 to get bachelor degree.
	Is the participation level of target group and/or the related organization high? How about their conscious level?			
			Can be seen some examples?	To strengthen the framework of provincial government support for TV project, the provincial governors, provincial administrators, and senior public servants were invited to attend meetings of the provincial steering committees. After discussions with the provincial government on rectifying this problem and preventing future problems, it was decided that back-up satellite broadcast equipment should be installed, and this would be purchased by using the provincial government's fiscal 2008 budget.
	What is the factor to provoke troubles or to affect project results?			
			Preventing factors to results, activity implementation process, and project purpose	(1) Project design This project consists of various components including the following: - To produce more than 200 TV programs a year; - To develop "Teacher's handbook" and "Student's worksheet"; - To produce awareness TV programs about new curriculum for primary school teachers; - To make communities aware to support receiving schools; - To conduct maintenance trainings for TV receiving teachers; and - To try out DEPI TV Programs. The Team felt that original project duration of two years and seven months was too short to complete all the components. In addition, starting the implementation of the Project without assessing the capacities of model teachers, in particular, the level of the subject content knowledge, made the project to increase unexpected activities in order to improve the capacity of model teachers to the required level. (2) Process of implementation Delay of the budget disbursement from DOE made negative influence to the project implementation

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
				EMTV transmit antenna pole built in Buka fell down in August 11, 2007. (3) C/P transfer - Project manager (head of curriculum development) had gone to private company. - Head of production committee (senior TV Producer) transferred to university. - A model teacher transferred to the International school. - Head of equipment manager (senior engineer) had gone to private company. - Head of subject committee (principal curriculum officer primary) transferred to AusAID. - Superintendent in Material unit retired. - Two advisers of provincial education office transferred to other positions.
			To confirm the effect and recovery situation of the antenna fall To analyze the method for the area where reception of TV signal is bad	One year has already passed but it is still on the process of recovery. Some schools have to continue TV lesson under bad condition with weak TV signal, and the others utilize DVD. The recovery supposes to be completed this September.
			Contributing factors to results, activity implementation process, and project purpose	(1) Project approach - Remote school in local level can get direct assistance from central level through TV without quality loss. - Activities can be delivered to teachers and students at the same time. - New media for the communities has big impact. (2) Process of implementation There are some experts who are familiar with PNG, especially the team leader is a respected person in PNG and has very high coordination ability for trouble shooting.

ANNEX3-2: Evaluation Grid: Evaluation by Five Criteria

Relevance

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
Necessity				
	Does Project purpose still correspond with the needs of PNG society?			
			Correspondence between local society issues and the Project	Due to the educational reform in 1993, primary school teachers, who had taught from Gr 1 to Gr 6, had to teach Gr 7 and Gr 8, giving primary school teachers new challenges. Those teachers who were not prepared to teach Grades 7 and 8 have faced difficulty, especially, in math and science. As there are many mountainous and islands in PNG, it is difficult to organize face-to-face training. Thus, distance mode of education is relevant to PNG. In particular, TV programs make it possible to show the high quality lessons to students and teacher in rural areas.
	Does Project purpose still correspond with the needs of the target group?			
			Correspondence between the target group issues and the Project	The way of using science apparatus, methods of experiment and mathematical knowledge can be acquired through TV programs, which can not be seen in remote schools without TV programs. Even though the training about educational reform is conducted once a year, it is said not enough. Therefore, person concerned in the schools have evaluated the TV lessons highly and even they have said that expansion of the TV lessons in other subjects and other grades would be welcomed.
Priority				
	Adjustment of Goal and the National Development Policy of PNG			
			To confirm the position of the distance education in the PNG education policy based on the related documents	The importance of basic education and distance education is specified in "The Medium Term Development Strategy" and "A National Plan for Education 2005-2014". In addition, the schedule of educational programs production and broadcasting has been clearly written in the strategy paper of NEMC "Prosperity through self-reliance (2004)", so the Project can be said to have been conducted within the PNG educational strategy. (Mid-term Evaluation)
	Adjustment with the cooperation policy of Japan and the JICA country program			
			Isn't there any important change on the cooperation policy of Japan and the JICA country program after the preliminary study?	At the Okinawa Summit conference held in Japan for the Pacific Regions, "Educational and Human Development" was addressed as one of the major strategic goals and the importance of distance education was also recognized. Also the GoPNG and GoJ mutually agreed in the political dialogue in 2004 and 2006 that education was one of Japan's priority areas for technical cooperation to PNG. In the JICA country program for PNG, the Project has corresponded with the priority area "Improvement of Education Services" and has been the major component in the cooperation program named "Strengthening Education System".
Validity as a Means				
	Is the project suitable as strategy corresponding to the improvement of the quality in PNG education?			
			Is the approach," Improvement of lesson through TV program", appropriate from the viewpoints that PNG has a lot of remote area where TV has not still reached?	For teachers in PNG where there are many mountainous and isolated islands areas, trainings through TV lessons are effective as these teachers can directly see high quality lessons. In addition, in terms of TV expansion, the recent perseverance of antennas of mobile phones makes it easy to have TV signals without buying parabolas. Also, the cost for TV set itself and the maintenance is affordable at each school level.
			TV is one way communication, but is it still relevant?	With a certain quality, TV lessons can provide the teachers in remote areas with new knowledge and new teaching methods and also can make the direct effects on students' learning. Also if the teachers acquire the methods of managing the TV lessons effectively, it is more helpful to the students. On the other hand, there are

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
				limitations of one-way communications such that TV lessons do not always show what the teachers and students want to know on the spot.
			Logic verification of pilot area selection	The provinces of East Sepik and Bougainville were selected as model provinces among the four of the partnership project provinces, because they had strong ownership and made the highly evaluated achievements. The reason of minimizing the number of model provinces was to make the efficient monitoring possible. (Preliminary Study) East New Britain was selected as the awareness province to investigate the potential for expanding the project, as its location is easy to access from the two model provinces. (Inception Report)
			Is there any movement or cooperation relationship, etc. of the donors that affects execution or result of the project?	The Department of Education has made the plan of nationwide distribution of the EQUITV materials by EU project. It is expected to be conducted after 2009. (Project Team Report 2007)
	Comparative Advantage of technology of Japan			
			Has technology for the Project been accumulated enough in Japan?	In Japan, NHK and the University of the Air have been conducted distance education for a long time, and its know-how has been accumulated.

Effectiveness

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
Possibility to achieve Project Purpose				
	How is achievement situation of Project Purpose?			
			Analysis of achievements	All the planned outputs contribute to achieving the project purpose. - From the data of base-line and end-line survey, the tendency is observed that receiving students results in the examination are better than those of non-receiving students, and in the results of mathematics in 2006 the improvement of receiving students was statistically greater than that of non-receiving students. - The receiving teachers can acquire the new subject knowledge and new method of teaching through TV lessons. - On the other hand, as TV lessons are too fast for some students to catch up, more follow up to those students is needed.
Cause and Effect Relationship				
	Can the activities based on lesson learnt of the prior project contribute to the Project purpose?			
			Development and distribution of TV guidebook for teacher and handbook for student	"Teacher's handbook" is essential materials for TV lesson preparation, and "Student's worksheet" is very effective to study through TV lessons. However, because of the limited budget, "Student's worksheet" could not be delivered to each student individually. Moreover, there were some delays in distributing those materials.
			Awareness activities for community	Awareness activities are recognized as an effective approach to convince communities and schools of the importance of the maintenance of TV sets and additional purchase of TV sets. The Team found the significance of community support through the interviews to BOM members.
	Do Important Assumptions from Outputs to the Project purpose change?			
			1. The EM TV's policy to provide free transmission time for the educational programs will not change	– Project manager (head of curriculum development) had gone to private company. – Head of production committee (senior TV Producer) transferred to university.

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
			2. Teachers of model and project primary schools who are in charge of this project do not change within a short period 3. The public peace in the project provinces is maintained	– A model teacher transferred to the International school. – Head of equipment manager (senior engineer) had gone to private company. – Head of subject committee (principal curriculum officer primary) transferred to AusAID. – Superintendent in Material unit retired. – Two advisers of provincial education office transferred to other positions. Due to tribe conflicts, all the schools in NCD were closed for a certain period in 2006. That made the model lesson production impossible and Japanese experts could not work with C/Ps.
	What are preventing and contributing factors to the accomplishment of the Project purpose?			
			Preventing factors	The delay in the budget disbursement from DOE in the first two years
			Contributing factors	Several Japanese experts, especially the team leader, are familiar with the situation of PNG. Therefore the team leader is well trusted by the PNG authorities as well as local people, which makes it easy for the Project to deal with the problems occurred during its implementation.

Efficiency

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
Degree of Outputs Achievement				
	Are Outputs as planned?			
			Analysis of achievements	Overall outputs initially planned have been almost achieved by the Project.
Cause and Effect Relationship				
	Are the activities enough for outputs?			
			Analysis of achievements	Because there was a huge gap between the required subject knowledge and the actual one, longer project period and more inputs were required such as dispatch Japanese experts in order to raise the knowledge level of the model teachers. Furthermore, including the DEPI component required the Project to add more activities.
	Are Preconditions preserved?			
			1. Financial support, staffing and other service in kind for execution of this project from DOE maintain present level of operation or more 2. Model classroom with sufficient facility are always available for the TV program production and other project purposes 3. The project schools prepare generators for TV sets	Because of the unstable computer network system in DOE, C/Ps could not access the NEMC server and the production of TV lessons and the teaching materials were interrupted.
Input				
	Are quantity and quality of inputs appropriate to implement activities?			
			Is the number of Japanese experts suitable?	In order to manage the project smoothly and to improve the C/P knowledge to the required level, the duration of

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
				the dispatch Japanese experts was not long enough.
			Is maintenance of materials and equipment utilized properly?	Even with the limited project budget, the project managed to provide the equipment. Equipment provided is not necessarily enough, but it is utilized and maintained well.
	Timing of input is suitable from the attained Outputs?			
			Isn't there any delay to affect activities implementation schedule?	The delay of the budget disbursement from DOE in 2006 and 2007
Cost				
	Is input cost reasonable for outputs?			
			Have the results of the previous Japanese cooperation been utilized?	All the facilities and equipment of NEMC are utilized which were provided by the series of Japanese cooperation. Human resources and know-how accumulated are made the most of in NEMC.
			Is there no alternative approach?	Some schools utilized DVD TV lessons when they could not get the TV signals. Hereafter, there is a possibility to conduct more effective approach and to reduce the cost by utilizing the DVDs. But, the approach of TV lessons can reach the target group more directly from the central than the other approach such as cascade system that sometimes declines the quality of the contents.

Impact

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
Achievement possibility of Overall Goal				
	Is achievement of Overall Goal expected from the actual achievement of Inputs and Outputs, and the situation of Activity?			
				Expansion of utilizing TV lessons in ESP and ARB has been promoted. In addition, TV project expansion plan has been documented and already approved by the provincial and regional governments. Until 2009, TV sets and TV receiving equipment are planned to be provided to all the primary schools in ESP and ARB. DOE is also now undertaking the nationwide expansion plan of TV lessons and already has applied for the next year budget.
	Is there any preventing factor for Super Goal?			
				In the area where parabola antennas are needed, there is unfairness among non project schools towards project schools.
Cause and Effect Relationship				
	Is the overall Goal not on the line extended from the Project purpose?			
			Is there any logical error?	No.
	Do Important Assumptions from the Project purpose to the overall Goal change?			
			1. DOE continue the support the distance education through use of media as appropriate means in the Education Reform	No. DOE has actively undertaken the policy making of distance education.
			2. Provincial education offices take initiative to expand the appropriate use/application/ introduction and regular delivery of distance education utilizing televised broadcasting in the provinces	No. They have made the efforts by making the plan related.
Extended Effect				

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
	Is an effect or influence other than Goal seen?			
			Impact on teachers and students other than the overall Goal	On receiving teachers - to become not to be late or to be absent from classes - to prepare the classes hard - to consider the gender - to be asked the advice by other teachers of Non TV schools On receiving Students - to improve the attendance rate - to improve English skills - to learn how to do presentation, group work, and collaborate working with boys and girls by observing the students' attitudes in the central - to improve the speed of note taking At School level - to have more collaborative and close relationship with community - to make the parents have interests in children's education - to buy other electrical equipment such as copy machine because now they have generator for TV
			Is some improvement observed in even ordinary lessons without TV by receiving teachers?	In addition, receiving teachers begin to transform their ways of teaching from the teacher oriented approach to student centred approach and then tend to make questions which prompt their students to think by themselves. They also have applied the class management and questioning skills they acquired through TV programs to other non TV classes.. By taking group working in the classes, students tend to be active and willing to work actively.
			Is there any influence such as gender issue, human rights issue, culture issue, etc.?	Seating mixed with boys and girls is more observed. Receiving teachers tend to appoint the students with the sense of gender equity.
			Geographically expansion	In the awareness province of East New Britain, the awareness activities done by Division of Education and Remote School Assistance Committee convinced 63 schools to start TV lessons by themselves. That shows almost 65 % of the primary schools in the province utilize TV lessons.
			Expansion to the other subjects	Study Team collected the comments that receiving teachers have applied the class management and questioning skills that they acquired through TV programs to other non TV classes.
			Expansion to the other education levels	Some schools have started the in-service trainings to share the knowledge of receiving teachers with other teachers.

Sustainability

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
Policy and System Aspects				
	Will political support be continued after the project over?			
		What kind of vision does DOE have from now on?		
				At the Senior Education Officers' Conference held on 18 July 2008, it was declared that EQUITV project would be expanded throughout the nation. Currently, these documents below are being drafted and will be completed in December 2008. However, the execution of these plans depends on the budget allocation by GoPNG. -Media Education Policy Department of Education (July 2008)

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
				-EQUITV Project Sustainable Plan (July 2008) -EQUITV Sustainable Plan, Teacher Education, Teachers College and PNGEI, Action Plan 2009 (July 2008) On top of these plans, in ESP and ARB, the utilization of TV lessons will be continued based on their own plans.
		Is the free broadcast offer from EMTV preserved?		
				EMTV makes the offer to continue the broadcasting the programs.
		How is the procedure of National Broadcast channel?		
			Can TV lesson program have some space?	National TV station will be opened on 16th Sep. 2008 by adding the TV station to the current radio station. Now the preparation for the equipment is on the process. To some extent, it is expected that National TV station broadcasts the model lessons, in the meanwhile, it will be decided according to the broadcasting schedule and so on.
Organization and Financial Aspects				
	Has the organization capacity been improved for the future independent from the project?			
		After project, will staff in 5 committees keep on working systematically?		
			Are all activities in the guidelines taken into official TOR of the media center?	Program production activities can be sustained at NEMC. Printing of all the materials at NEMC is no longer possible for the nationwide expansion at current level. To compensate the situation, other options such as printing materials at provincial level can be considered. Remote school assistance as well as monitoring systems should be newly structured.
	Is the budget including recurrent cost preserved?			
			Has the budget for expansion nationwide preserved? -Revise cost of materials -Print and distribution cost	DOE just applied for the budget about three million kina for the nationwide expansion for 2009. That budget can cover the cost of the 120 TV sets, 4 satellites and one transmitter.
			Can each school buy necessary equipment by itself?	It depends on each school, but as far as the Team observed, all the schools have the certain amount of school budget. Some schools even have the abundant budget compared to other developing countries in Africa or Central and South America. Depending on the priorities in each school, it is possible to buy necessary equipment by itself. Transmitter, satellite antenna and cost for printing materials should be secured at DOE and provincial division of education.
			Cooperation with other donors?	AusAID a) Collaboration BEDP （Basic Education Development Program） BEDP project duration is from 2004 to 2008 and its target is all the primary schools in all provinces. The main activity of this project is to provide head teachers, primary school teachers and BOM with trainings for school management and also provide each school with 5,000 kina. At each school level, this amount of budget can be applied to EQUITV maintenance fee. b) Collaboration with ECBP （Education Capacity Building Project） ECBP project started in November, 2005. This is rather a program scheme and it focuses more on in-service training and monitoring activities. So it means that those activities are the priority area of AusAID cooperation. Since EQUITV conducts some training and monitoring, synergy impact is expected to be seen by collaborating with ECBP. (Mid Term Evaluation)

Evaluation Questions			Basis for judgement	Results
Major	Minor	Detail		
				c) EU EU started the "Textbook Project", and its main activities are to purchase and distribute textbooks, material for libraries, and other materials or maps to primary schools. The EQUITV project has negotiated with EU to print out and distribute "Teachers' Handbook" and "Students' Worksheet". Under the "Textbook Project", they have rules to buy the books but finally it responded that those EQUITV materials can be purchased if they are printed by DOE beforehand. Hereafter the possibility of collaboration between EU "Textbook project" and EQUITV project still need to be pushed with the cooperation by DOE.
Technical Aspect				
	How much does the counterpart organization have possibility to maintain the expand mechanism?			
			How about each committee?	In order for the model teachers to improve the quality of model lessons by themselves, further efforts are needed. Although the capacity of model teachers has been improved, their abilities of conducting the project by them are not enough, and more support is needed. From the perspective of the importance of the materials, more efforts should be made to distribute the materials on time for TV broadcasting. The abilities of TV production staff have reached at the certain level. However, if they have more work done, more staffing is necessary. Remote School Assistance Committee and Monitoring Committee needs further improvements in their activities to raise the awareness and to maximize the effects of TV lessons even in a current situation. If it comes to the nationwide expansion, activities of these two committees are the keys to contribute.
			How about management ability?	The basic and routine activities of steering committee can be conducted by C/P themselves.
			Have all activities been systemized?	TV production activities are having been systemized to some extent.
			Is there any problem in equipment endurance?	The TV production is conducted mainly with the equipment which was set six years ago. Due to the hard use everyday, it is the timing for the equipment to be repaired and maintained. In order to achieve the output "TV lessons of high quality for students are regularly broadcasted", technical advice on maintenance plan for equipment including editing and spare equipment is still needed. (Progress Report No5)
Others				
	TV prevalence			
			The situation of TV prevalence out of the related provinces of the Project.	The survey of TV prevalence rate at school level is now being conducted by DOE. With the results of the survey, the possibility of the dissemination of distance education will be verified.

Appendix 1-1

Mathematics Grade 8 2006 Producation & On air record

No:	Strand:	Sub strand:	Topic:	Rec Date:	On Air Date:	Duration:
1	Fractions	Number & Application	Fractions	2006/2/6	2006/2/13	33:00:05
2	Number & Application	Fractions	Matric & Unit	2006/2/14	2006/2/14	29:40.03
3	Number & Application	Fractions	Matric & Unit	2006/2/8	2006/2/15	31:47:00
4	Number & Application	Fractions	Matric & Unit	2006/2/9	2006/2/16	30:10:23
5	Number & Application	Decimals	Place value	2006/2/13	2006/2/20	33:20:00
6	Number & Application	Decimals	Addition & Subtraction of decimals	2006/2/14	2006/2/21	30:44:00
7	Number & Application	Fractions & decimals	Multiplying & dividing decimals	2006/2/15	2006/2/22	30:09:00
8	Number & Application	Fractions & decimals	Changing decimal fraction	2006/2/16	2006/2/23	28:13:00
9	Number & Application	Fractions & decimals	Converting decimal fraction	2006/2/17	2006/2/27	30:39:00
10	Number & Application	Fractions & decimals	Ration & fraction	2006/2/21	2006/2/26	31:45:00
11	Number & Application	Percentages	using percentage as decimals	2006/2/22	2006/3/1	30:24:00
12	Number & Application	Decimals & Percentages	Converting betwn decimals & percentages	2006/2/23	2006/3/2	33:56:00
13	Number & Application	Decimals & Percentages	Discount	2006/2/27	2006/3/6	31:12:00
14	Number & Application	Decimals & Percentages	Profit, loss & profit	2006/2/28	2006/3/7	30:48:00
15	Number & Application	Decimals & Percentages	Percentage composition	2006/3/1	2006/3/8	29:41:00
16	Number & Application	Decimals & Percentages	Percentage composition	2006/3/2	2006/3/9	34:07:00
17	Number & Application	Ratio & Rates	Comparing	2006/3/6	2006/3/13	30:57:00
18	Number & Application	Ratio & Rates	Converting	2006/3/7	2006/3/14	29:00:00
19	Number & Application	Ratio & Rates	Solving ratio in problem solving	2006/3/8	2006/3/15	31:59:00
20	Number & Application	Ratio & Rates	Applying ratio in problem	2006/3/8	2006/3/16	30:08:00
21	Number & Application	Ratio & Rates	Reading a scale	2006/3/9	2006/3/17	30:08:00
22	Number & Application	Ratio & Rates	Solving ratio problem	2006/3/14	2006/3/20	29:09:00
23	Number & Application	Ratio & Rates	Comparing different kind	2006/3/15	2006/3/22	27:39:00
24	Number & Application	Ratio & Rates	Solving ratio problem	2006/3/16	2006/3/24	30:20:00
25	Number & Application	Ratio & Rates	Comparing rates	2006/3/20	2006/3/27	29:59:00
26	Number & Application	Ratio & Rates	Wise buying	2006/3/21	2006/3/28	28:06:00
27	Number & Application	Ratio & Rates	Comparing	2006/3/23	2006/3/29	28:42:00
28	Number & Application	Ratio & Rates	Comparision	2006/3/24	2006/3/30	30:59:00
29	Number & Application	Ratio & Rates	Opposite	2006/4/3	2006/4/1	30:17:00
30	Number & Application	Ratio & Rates	Symbols	2006/4/4	2006/4/2	34:10:00
31	Number & Application	Ratio & Rates	Numbers & Lines	2006/5/3	2006/4/26	34:20:00
32	Number & Application	Directed numbers	Numbers Planes	2006/4/26	2006/5/4	29:30:00
33	Number & Application	Directed numbers	Adding & Subtraction directed number	2006/4/27	2006/5/8	25:58:00
34	Number & Application	Directed numbers	Multiplying direct number	2006/4/28	2006/5/9	33:56:00
35	Number & Application	Directed numbers	Index Notation	2006/4/29	2006/5/10	35:50:00
36	Number & Application	Indices	Index Notation	2006/5/4	2006/5/23	29:49:00
37	Number & Application	Indices	Product & Quotient rule	2006/5/5	2006/5/24	39:55:00
38	Number & Application	Indices	Squared & cubed numbers	2006/5/6	2006/5/25	35:47:00
39	Number & Application	Indices	Numbers & application	2006/5/7	2006/6/1	28:28:00
40	Space & Shapes	Area & Shapes	Meauring circumference & diameter	2006/5/26	2006/6/5	32:09:00
41	Space & Shapes	Area & Shapes	Identifying Pi (π)	2006/5/29	2006/6/6	32:56:00
42	Space & Shapes	Area & Shapes	Circumference of a circle	2006/5/30	2006/6/7	34:15:00
43	Space & Shapes	Area & Shapes	Length fo the arc	31/06/2006	2006/6/9	29:40:00
44	Space & Shapes	Area & Shapes	Application of circumference	2006/5/1	2006/6/13	33:39:00
45	Space & Shapes	Area & Shapes	Area of a circle	2006/6/2	2006/6/14	39:58:00
46	Space & Shapes	Area & Shapes	Area of a sector	2006/6/5	2006/6/15	29:05:00
47	Space & Shapes	Area & Shapes	Application of area	2006/6/6	2006/6/16	39:14:00
48	Space & Shapes	Volume	Area of a circle	2006/6/7	2006/6/19	29:46:00
49	Space & Shapes	Volume	Volume of a prism	2006/6/8	2006/6/20	30:12:00
50	Space & Shapes	Volume	Volume of a cylinder	2006/6/9	2006/6/21	33:54:00
51	Space & Shapes	Volume & capacity	Volume of a pyramid	2006/6/13	2006/6/22	28:55:00
52	Space & Shapes	Volume & capacity	Volume of a cone	2006/6/14	2006/6/23	34:13:00
53	Space & Shapes	Volume & capacity	Application of volume in 3D shape	2006/6/15	2006/6/26	35:58:00
54	Space & Shapes	Volume & capacity	Understanding capacity units	2006/6/16	2006/6/27	28:01:00
55	Space & Shapes	Angles & shapes	Convert capacity to volume	2006/6/17	2006/6/28	35:28:00
56	Space & Shapes	Angles & shapes	Compare btwn imperial & metric units	2006/6/19	2006/6/29	31:50:00
57	Space & Shapes	Angles & shapes	Solving problems involving capacity & volu	2006/6/20	2006/6/30	36:50:00
58	Space & Shapes	Angles & shapes	Angles	2006/6/21	2006/7/24	37:13:00
59	Space & Shapes	Angles & shapes	Complementary & Supplementary angles	2006/6/22	2006/7/25	32:08:00
60	Space & Shapes	Angles	Parallel lines	2006/7/20	2006/7/27	39:40:00
61	Space & Shapes	Angles	Sum of interior angles of triangle	2006/7/26	2006/7/31	34:14:00
62	Space & Shapes	Angles	Relationship of interior & exterior angles	2006/7/27	2006/8/1	36:31:00
63	Space & Shapes	Angles	Sum of interior angles of polygons	2006/7/28	2006/8/2	37:43:00
64	Space & Shapes	Nets	Making solid	2006/7/31	2006/8/3	28:43:00
65	Space & Shapes	Nets	3-D shapes	2006/8/2	2006/8/4	38:18:00
66	Space & Shapes	Distance	Reading scale on maps	2006/8/3	2006/8/7	34:05:00
67	Space & Shapes	Directions	Reading symbols & key on maps	2006/8/4	2006/8/8	38:58:00
68	Space & Shapes	Directions	Latitude	2006/8/5	2006/8/9	33:37:00
69	Space & Shapes	Directions	Longitude	2006/8/6	2006/8/10	41:31:00
70	Space & Shapes	Maps & cordinates	Co-ordinates	2006/8/7	2006/8/11	39:31:00
71	Space & Shapes	Maps & cordinates	Towns of PNG	2006/8/9	2006/8/14	27:50:00
72	Patterns & Algebra	Algebra	Patterns	2006/8/11	2006/8/15	38:48:00
73	Patterns & Algebra	Algebra	Like & unlike terms	2006/8/12	2006/8/16	36:56:00
74	Patterns & Algebra	Algebra	Multiplying & dividing terms	2006/8/13	2006/8/17	35:27:00
75	Patterns & Algebra	Algebra	Using distributive law	2006/8/14	2006/8/18	36:30:00
76	Patterns & Algebra	Algebra	Factors & factorations	2006/8/17	2006/8/21	34:15:00
77	Patterns & Algebra	Algebra	Substitution	2006/8/18	2006/8/22	36:12:00
78	Patterns & Algebra	Algebra	Solving problems using	2006/8/19	2006/8/23	39:27:00
79	Patterns & Algebra	Algebra	Solving problems using	2006/8/20	2006/8/24	37:59:00
80	Measurement	Weight	Units of weight	2006/8/21	2006/8/25	35:48:00
81	Measurement	Weight	Weight chart	2006/8/24	2006/8/28	30:01:00
82	Measurement	Weight	weight & volume	2006/8/25	2006/8/29	31:17:00
83	Measurement	Weight	Density	2006/8/26	2006/8/30	32:54:00
84	Measurement	Time	Time	2006/8/27	2006/8/31	35:58:00
85	Measurement	12 & 24 hour time	12 & 24 hour time	2006/8/28	2006/9/4	31:17:00
86	Measurement	Time	Location & time	2006/8/31	2006/9/5	21:48:00
87	Measurement	Time	Speed	2006/9/1	2006/9/6	34:53:00
88	Measurement	Time	Time graph	2006/9/2	2006/9/7	29:02:00
89	Measurement	Time	Adding & Subtraction time	2006/9/3	2006/9/11	32:31:00
90	Chance & Data	Statistics	Collection of data	2006/9/4	2006/9/12	27:09:00
91	Chance & Data	Statistics	Organizing data in table	2006/9/7	2006/9/14	36:03:00
92	Chance & Data	Statistics	Organizing data in table	2006/9/8	2006/10/2	29:36:00
93	Chance & Data	Statistics	Organizing data in table	2006/9/9	2006/10/3	29:43:00
94	Chance & Data	Statistics	Mode & Range	2006/9/11	2006/10/4	30:32:00
95	Chance & Data	Statistics	Median	2006/9/12	2006/10/5	36:32:00
96	Chance & Data	Statistics	Mean	2006/9/13	2006/9/9	35:00:20
97	Chance & Data	Probability	Probability of simple event	2006/9/14	2006/10/10	35:04:00
98	Chance & Data	Probability	Calculation of Property	2006/10/3	2006/10/11	37:58:00
99	Chance & Data	Probability	Language of Property	2006/10/4	2006/10/12	33:06:00
100	Chance & Data	Probability	Equalll likely outcome	2006/10/5	2006/10/16	39:53:00
101	Chance & Data	Key set	Seem diagram	2006/10/12	2006/10/17	30:43:00
102	Patterns & Algebra	Algebra	Algebra	2006/10/13	2006/10/18	35:50:00
103	Revision		Revision in direct numbers	2006/10/14	2006/10/18	35:54:00

Appendix 1-2

Science Grade 8 2006 Producation & On air record

No:	Strand:	Sub strand:	Topic:	Rec Date:	ON Air Date:	Duration:
1	Living things	Nature of Living things	Living things	2006/2/7	2006/2/13	34:22:06
2	Living things	Nature of Living things	Structure and function of plants	2006/2/8	2006/2/14	36:16:00
3	Living things	Nature of Living things	Reproductive process in plants	2006/2/9	2006/2/15	37:27:00
4	Living things	Nature of Living things	Our body (1)	2006/2/10	2006/2/16	40:02:00
5	Living things	Nature of Living things	Our body (2)	2006/2/11	2006/2/20	34:46:04
6	Living things	Nature of Living things	Reproductive process in human beings	2006/2/14	2006/2/21	37:24:00
7	Living things	Nature of Living things	Reproductive process in animals	2006/2/15	2006/2/22	31:44:00
8	Living things	Nature of Living things	Comparing reproductive process	2006/2/16	2006/2/23	36:25:12
9	Living things	Nature of Living things	What is in my environment	2006/2/20	2006/2/27	28:38:00
10	Living things	Nature of Living things	Animal characteristics	2006/2/21	2006/2/28	37:41:00
11	Living things	Nature of Living things	Sexual patterns of living things	2006/2/22	2006/3/1	36:45:00
12	Living things	Nature of Living things	Sexual behaviour of livng things	2006/2/23	2006/3/2	34:45:05
13	Living things	Nature of Living things	Is it worth living?	2006/2/27	2006/3/3	35:58:06
14	Living things	Ecology/Relationship & Interaction	Food chain	2006/2/28	2006/3/7	37:36:01
15	Living things	Ecology/Relationship & Interaction	Food web	2006/3/1	2006/3/8	32:13:24
16	Living things	Ecology/Relationship & Interaction	What's Biodegradable?	2006/3/3	2006/3/9	37:43:22
17	Living things	Ecology/Relationship & Interaction	Making a compost	2006/3/6	2006/3/13	34:52:22
18	Living things	Ecology/Relationship & Interaction	Compare positive & negative use of Biodegradable	2006/3/7	2006/3/14	33:53:17
19	Living things	Ecology/Relationship & Interaction	Importances of Biodegradable materials	2006/3/8	2006/3/15	33:58:22
20	Living things	Ecology/Relationship & Interaction	What's non-biodegradable?	2006/3/9	2006/3/16	33:06:07
21	Living things	Ecology/Relationship & Interaction	Sources of non-biodegradable materials	2006/3/10	2006/3/20	33:17:07
22	Living things	Ecology/Relationship & Interaction	Uses & effect of overuse of non-bio materials(1)	2006/3/14	2006/3/21	38:03:02
23	Living things	Ecology/Relationship & Interaction	Uses & effect of overuse of non-bio materials(2)	2006/3/15	2006/3/22	37:28:08
24	Living things	Ecology/Relationship & Interaction	Impact of non-biodegradable materials(1)	2006/3/16	2006/3/23	34:01:05
25	Living things	Ecology/Relationship & Interaction	Impact of non-biodegradable materials(2)	2006/3/20	2006/3/27	28:14:00
26	Living things	Ecology/Relationship & Interaction	Excessive use of non-biodegradable materials	2006/3/21	2006/3/28	27:58:07
27	Living things	Ecology/Relationship & Interaction	Creating awareness(1)	2006/3/22	2006/3/29	32:17:12
28	Living things	Ecology/Relationship & Interaction	Creating awareness(2)	2006/3/23	2006/3/30	29:35:03
29	Science in the home	Learning about substances	We are particules	2006/3/13	2006/3/26	36:34:12
30	Science in the home	Learning about substances	Everything matters	2006/3/14	2006/3/27	32:09:01
31	Science in the home	Learning about substances	Solid - How can I tell?	2006/3/15	31/04/06	38:39:01
32	Science in the home	Learning about substances	Liquid - How can I tell?	2006/4/18	2006/4/4	34:56:13
33	Science in the home	Learning about substances	Gases - How can I tell?	2006/4/27	2006/4/8	30:28:13
34	Science in the home	Learning about substances	How much is enough?	2006/4/28	2006/5/9	38:04:05
35	Science in the home	Learning about substances	Volume - The shap makes it hard	2006/5/1	2006/5/10	32:30:13
36	Science in the home	Learning about substances	How hot is this liquid?	2006/5/2	2006/5/11	39:11:20
37	Science in the home	Learning about substances	How do crystal looks like? (1)	2006/5/3	2006/5/15	35:04:05
38	Science in the home	Learning about substances	How do crystal looks like? (2)	2006/5/4	2006/5/31	35:40:18
39	Science in the home	Learning about substances	Make your own drink	2006/5/5	2006/6/5	30:43:06
40	Science in the home	Learning about substances	Why do substances sink/float?	2006/5/26	2006/6/6	33:01:17
41 a	Science in the home	Learning about substances	Why do substances sink/float? (1)	2006/5/29	2006/6/7	35:44:13
41 b	Science in the home	Learning about substances	Solids - Hotter or cooler	2006/5/30	2006/6/8	38:05:01
42	Science in the home	Learning about substances	Solids - How do I know	2006/5/31	2006/6/9	33:05:06
43	Science in the home	Learning about substances	Expansion	2006/6/1	2006/6/13	37:36:18
44	Science in the home	Learning about substances	Let's find acids	2006/6/2	2006/6/14	29:03:00
45	Science in the home	Learning about substances	Lets find bases	2006/6/3	2006/6/15	36:50:24
46	Science in the home	Learning about substances	Is it acid? (1)	2006/6/6	2006/6/16	37:10:08
47	Science in the home	Learning about substances	Is it acid? (2)	2006/6/7	2006/6/19	37:35:00
48	Science in the home	Learning about substances	Is it base?	2006/6/8	2006/6/20	32:15:17
49	Science in the home	Learning about substances	Is it base? (2)	2006/6/9	2006/6/21	38:32:09
50	Science in the home	Learning about substances	Working Acids (1)	2006/6/13	2006/6/22	27:54:15
51	Science in the home	Learning about substances	Working Acids (2)	2006/6/15	2006/6/23	34:30:00
52	Science in the home	Learning about substances	Bases at work (1)	2006/6/16	2006/6/26	35:02:01
53	Science in the home	Learning about substances	Bases at work (2)	2006/6/19	2006/6/26	28:52:03
54	Science in the home	Learning about substances	Add dilute acids & bases (1)	2006/6/20	2006/6/28	34:41:07
55	Science in the home	Learning about substances	Add dilute acids & bases (2)	2006/6/27	2006/6/29	28:43:05
56	Science in the home	Learning about substances	Traditional dyes	2006/6/20	2006/6/30	32:18:05
57	Science in the home	Learning about substances	What is energy (1)	2006/6/25	2006/7/24	37:34:12
58	Science in the home	Learning about substances	What is energy (2)	2006/6/28	2006/7/25	38:25:23
59	Science in the home	Using energy at home	Conservation of energy	2006/7/19	2006/7/27	38:04:17
60	Science in the home	Using energy at home	Source of energy	2006/7/20	2006/7/28	24:19:07
61	Science in the home	Using energy at home	creating Awareness 2	2006/7/14	2006/7/29	26:20:00
62	Science in the home	Using energy at home	Measurement of heat energy	2006/7/25	2006/7/31	38:04:05
63	Science in the home	Using energy at home	Static electric energy	2006/7/26	2006/8/1	26:45:05
64	Science in the home	Using energy at home	Electric circuit (1)	2006/7/27	2006/8/2	34:04:12
65	Science in the home	Using energy at home	Electric circuit (2)	2006/7/28	2006/8/3	37:12:06
66	Science in the home	Using energy at home	Resistance (1)	2006/7/27	2006/8/4	36:05:04
67	Science in the home	Using energy at home	Resistance (2)	2006/8/1	2006/8/7	30:29:06
68	Science in the home	Using energy at home	Force (1)	2006/7/27	2006/8/8	37:25:22
69	Science in the home	Using energy at home	Force (2)	2006/7/28	2006/8/9	37:38:08
70	Science in the home	Using energy at home	Force (3)	2006/7/31	2006/8/10	37:51:20
71	Science in the home	Using energy at home	Friction (1)	2006/8/7	2006/8/11	34:43:12
72	Science in the home	Using energy at home	Friction (2)	2006/8/8	2006/8/14	22:49:17
73	Science in the home	Using energy at home	Friction (3)	2006/8/9	2006/8/15	31:03:19
74	Science in the home	Using energy at home	What is work? (1)	2006/8/10	2006/8/16	32:59:13
75	Science in the home	Using energy at home	What is work? (2)	2006/8/11	2006/8/17	39:09:22
76	Science in the home	Using energy at home	Machines	2006/8/14	2006/8/18	38:12:17
77	Science in the home	Using energy at home	Lever-Making work easier	2006/8/15	2006/8/21	34:35:23
78	Science in the home	Using energy at home	Lever-Making work easier	2006/8/21	2006/8/22	38:48:17
79	Science in the home	Using energy at home	The law of lever-Problem solving (2)	2006/8/22	2006/8/23	41:20:14
80	Science in the home	Using energy at home	Pulley (1)	2006/8/23	2006/8/24	39:00:01
81	Science in the home	Using energy at home	Pulley (2)	2006/8/24	2006/8/25	39:14:06
82	Science in the home	Using energy at home	Pulley (3)	2006/8/25	2006/8/28	35:22:17
83	Science in the home	Using energy at home	Other usefull machines	2006/8/28	2006/8/29	36:05:20
84	Science in the home	Using energy at home	Problems on Pulleys	2006/8/28	2006/8/30	38:48:00
85	Science in the home	Using energy at home	Inside the earth	2006/8/29	2006/8/31	38:32:03
86	Earth & Beyound	Our earth & it's origine	Igneous rocks	2006/8/29	2006/9/4	36:39:06
87	Earth & Beyound	Our earth & it's origine	Weathering & erosion	2006/9/1	2006/9/5	36:14:02
88	Earth & Beyound	Our earth & it's origine	Transportation & deposit	2006/9/2	2006/9/6	40:17:01
89	Earth & Beyound	Our earth & it's origine	Sedimentation	2006/9/3	2006/9/7	37:16:07
90	Earth & Beyound	Our earth & it's origine	Sedimentry rock	2006/9/4	2006/9/11	37:16:17
91	Earth & Beyound	Our earth & it's origine	Metamorphnic rocks & rock cycle	2006/9/6	2006/9/12	37:16:09
92	Earth & Beyound	Our earth & it's origine	Fossils	2006/9/7	2006/9/13	32:46:24
93	Earth & Beyound	Our earth & it's origine	The earhts atmosphere	2006/9/8	2006/9/14	38:54:19
94	Earth & Beyound	Space exploration	Air is life, water is life	2006/9/11	2006/10/2	37:52:24
95	Earth & Beyound	Space exploration	Solar system	2006/9/12	2006/10/3	38:24:03
96	Earth & Beyound	Space exploration	Earth, Moon & the sun	2006/9/14	2006/10/4	38:04:14
97	Earth & Beyound	Space exploration	Telescope - Observe outside the atmosphere	2006/9/14	2006/10/5	34:03:01
98	Earth & Beyound	Space exploration	Spaceship - Observe outside the atmosphere	2006/10/3	2006/10/9	30:00:00
99	Earth & Beyound	Space exploration	Distance - Communication between space & land	2006/10/4	2006/10/10	30:10:13
100	Earth & Beyound	Space exploration	How to we receive TV lesson	2006/10/6	2006/10/11	28:00:11
101	Earth & Beyound	Space exploration	Discussion	2006/10/9	2006/10/16	37:29:17
102	Earth & Beyound	Space exploration	Science Test Skills	2006/10/10	2006/10/11	36:48:15
103	Revision.1		Revision	2006/10/11	2006/10/17	38:00:17
104	Revision.2		Revision	2006/10/12	2006/10/18	32:31:21
105	Revision.3		Revision	2006/10/13	2006/10/19	36:48:15

Appendix 1-3

Mathematics Grade 8 2007 Producation & On air record

L.# No:	Strand:	Sub strand:	Topic:	Rec Date:	On Air Date:	Duration:
1	Number & Application	Fractions	Making a Fraction Wall	2007/2/5	2007/2/12	39:49:00
2	Number & Application	Fractions	Adding & Substracting of Fractions	2007/2/6	2007/2/13	39:09:00
3	Number & Application	Fractions	Multiplying Fractions	2007/2/7	2007/2/14	40:36:00
4	Number & Application	Fractions	Dividing Fractions	2007/2/8	2007/2/16	34:07:00
5	Number & Application	Fractions	Word problems involving Fractions	2007/2/12	2007/2/19	39:49:00
6	Number & Application	Fractions	Place Value	2007/2/13	2007/2/20	32:48:00
7	Number & Application	Decimals	Adding & Substracting of Decimals	2007/2/14	2007/2/21	37:42:00
8	Number & Application	Decimals	Multiplying Fractions	2007/2/15	2007/2/22	36:52:00
9	Number & Application	Decimals	Dividing Decimal Numbers	2007/2/19	2007/2/26	39:42:00
10	Number & Application	Decimals	Word problems involving Decimals	2007/2/20	2007/2/27	34:21:00
11	Number & Application	Decimals	Conversion betwn Fraction & Decimals	2007/2/21	2007/2/28	38:21:00
12	Number & Application	Fractions	Conversion betwn Fractions & Percentages	2007/2/22	2007/3/1	42:35:00
13	Number & Application	Decimals	Converting Decimals to Percentages	2007/2/26	2007/3/5	34:26:00
14	Number & Application	Fractions & Ratios	Fractions & Ratios	2007/2/27	2007/3/6	34:39:00
15	Number & Application	Percentages	Percentage of a Quantity	2007/2/28	2007/3/7	40:14:00
16	Number & Application	Percentages	Discount	2007/3/1	2007/3/8	43:04:00
17	Number & Application	Percentages	Commmission	2007/3/5	2007/3/12	37:12:00
18	Number & Application	Percentages	Simple Interest	2007/3/6	2007/3/13	36:35:00
19	Number & Application	Percentages	Profit & Loss	2007/3/7	2007/3/14	37:17:00
20	Number & Application	Ratio & Rates	Understanding Ratio	2007/3/8	2007/3/15	37:31:00
21	Number & Application	Ratio & Rates	Equivalent Ratio	2007/3/12	2007/3/19	33:45:00
22	Number & Application	Ratio & Rates	Using ratio to solving problem	2007/3/13	2007/3/20	43:46:00
23	Number & Application	Ratio & Rates	Dividing a quantity in a given Ratio	2007/3/14	2007/3/21	42:54:00
24	Number & Application	Ratio & Rates	Increasing/ Decreasing a quantity in a given Ratio	2007/3/15	2007/3/22	39:50:00
25	Number & Application	Ratio & Rates	Understanding Rates	2007/3/19	2007/3/26	32:52:00
26	Number & Application	Ratio & Rates	Comparing Rates	2007/3/20	2007/3/27	40:35:00
27	Number & Application	Ratio & Rates	Problems involving Rates	2007/3/21	2007/3/28	31:26:00
28	Number & Application	Ratio & Rates	Speed, Distance & Time	2007/3/22	2007/3/29	30:26:00
29	Number & Application	Ratio & Rates	Scale Drawing	2007/3/26	2007/4/23	36:19:00
30	Number & Application	Directed numbers	Numbers & Lines	2007/3/27	2007/4/24	32:50:00
31	Number & Application	Directed numbers	Adding & Subtraction directed number	2007/3/28	2007/4/25	31:28:00
32	Number & Application	Directed numbers	Multiplying & Dividing Direct number	2007/4/24	2007/4/26	30:45:00
33	Number & Application	Directed numbers	Order of Operations	2007/4/25	2007/5/1	42:56:00
34	Number & Application	Directed numbers	Number Lines	2007/4/26	2007/5/2	42:08:00
35	Number & Application	Indices	Index Form	2007/5/30	2007/5/3	38:18:00
36	Number & Application	Indices	Using Product & Application	2007/5/1	2007/5/7	36:01:00
37	Number & Application	Indices	Negative & Zero Indices	2007/5/2	2007/5/8	36:11:00
38	Number & Application	Indices	Application of Indices	2007/5/3	2007/5/9	38:55:00
39	Number & Application	Shapes	Part of a Circle	2007/5/7	2007/5/10	29:26:00
40	Number & Application	Shapes	Measuring circumference & diameter	2007/5/8	2007/5/14	35:49:00
41	Number & Application	Shapes	Identifying Pi (π)	2007/5/9	2007/5/15	32:56:00
42	Number & Application	Shapes	Circumference of a circle	2007/5/10	2007/5/16	37:34:00
43	Number & Application	Area	Identifying the area of a Circle	2007/5/14	2007/5/17	38:10:00
44	Number & Application	Area	Application of Area	2007/5/15	2007/5/21	32:59:00
45	Space & Shapes	Volume	3-D Shapes	2007/5/16	2007/5/22	43:46:00
46	Space & Shapes	Shapes	Circumference of a circle	2007/5/17	2007/5/23	37:34:00
47	Space & Shapes	Volume	Volume of a cylinder	2007/5/21	2007/5/24	38:58:00
48	Space & Shapes	Volume	Volume of a prism	2007/5/22	2007/5/28	35:17:00
49	Space & Shapes	Volume	Volume of a cone	2007/5/23	2007/5/29	33:36:00
50	Space & Shapes	Volume	Application of Volume	2007/5/24	2007/5/30	34:34:00
51	Space & Shapes	Capacity	Understanding Capacity	2007/5/28	2007/5/31	35:52:00
52	Space & Shapes	Capacity	Converting Capacity to Volume	2006/5/29	2007/6/4	29:32:00
53	Space & Shapes	Capacity	Compating betwn imperial & metric unit	2006/5/30	2007/6/5	36:06:00
54	Space & Shapes	Capacity	Volume & Capacity problem	2006/5/31	2007/6/6	41:21:00
55	Space & Shapes	Angles	Angles	2006/6/4	2007/7/15	37:40:00
56	Space & Shapes	Angles	Commplementary & supplimentary angles	2006/6/5	2007/7/16	33:26:00
57	Space & Shapes	Angles	Parallel lines	2006/6/6	2007/7/17	42:33:00
58	Space & Shapes	Angles	Angles sum of a circle	2006/7/15	2007/7/18	37:48:00
59	Space & Shapes	Angles	Sum of interior angles of polygons	2006/7/16	2007/7/24	39:49:00
60	Space & Shapes	Angles	Relationship of interior & exterior angles	2006/7/17	2007/7/25	32:48:00
61	Space & Shapes	Net	Making solids	2006/7/18	2007/7/26	37:42:00
62	Space & Shapes	Net	More on 3-shapes	2006/7/24	2007/7/27	36:52:00
63	Space & Shapes	Direction	Reading scales on the map	2006/7/25	2007/7/29	39:42:00
64	Space & Shapes	Direction	Bearings	2006/7/26	2007/7/30	34:21:00
65	Space & Shapes	Maps & coordinates	Map & Latitude	2006/7/27	2007/7/31	38:21:00
66	Space & Shapes	Maps & coordinates	Longitude	2006/7/29	2007/8/1	42:35:00
67	Space & Shapes	Decimals	Maps & Coordinates	2006/7/30	2007/8/5	41:18:00
68	Space & Shapes	Algebra	Towns of PNG	2006/7/31	2007/8/6	34:39:00
69	Patterns & algebra	Algebra	Patterns	2006/8/1	2007/8/7	40:18:00
70	Patterns & algebra	Algebra	Adding & subtracting algebra terms	2006/8/5	2007/8/8	38:18:00
71	Patterns & algebra	Algebra	Multiplying & Dividing algebra terms	2006/8/6	2007/8/12	37:41:00
72	Patterns & algebra	Algebra	Distributive laws toexpand algebra expression	2006/8/7	2007/8/13	34:37:00
73	Patterns & algebra	Algebra	Factors & factorization	2006/8/8	2007/8/14	33:45:00
74	Patterns & algebra	Algebra	Substitution	2006/8/12	2007/8/15	31:43:00
75	Patterns & algebra	Algebra	Algebra expression in geometry	2006/8/13	2007/8/19	36:50:00
76	Patterns & algebra	Algebra	Silving problem using algebra	2006/8/14	2007/8/20	38:23:00
77	Measurment	Weight	Converting weight to other units	2006/8/15	2007/8/21	36:35:00
78	Measurment	Weight	Weight carts	2006/8/19	2007/8/22	34:36:00
79	Measurment	Weight	Weight & mass	2006/8/20	2007/8/28	31:17:00
80	Measurment	Weight	Problems solving using mass	2006/8/21	2007/8/29	32:54:00
81	Measurment	Time	Time	2006/8/22	2007/9/2	31:17:00
82	Measurment	Time	12 & 24 hour time	2006/8/28	2007/9/3	35:58:00
83	Measurment	Time	Location & time	2006/8/29	2007/9/4	32:43:00
84	Measurment	Time	Speed	2006/9/2	2007/9/5	32:25:00
85	Measurment	Time	Time graphs	2006/9/3	31/09/2011	31:17:00
86	Measurment	Time	Adding & subtraction time	2006/9/4	2007/9/4	35:12:00
87	Chance & data	Statistics	Collecting data	2006/9/5	2007/9/5	34:52:00
88	Chance & data	Statistics	Organizing data in table	31/09/2011	2007/9/6	29:21:00
89	Chance & data	Statistics	Organizing data in graph	2006/9/4	2007/9/10	32:31:00
90	Chance & data	Statistics	Calculating mode & range	2006/9/5	2007/9/11	27:09:00
91	Chance & data	Statistics	Calulating mean	2006/9/8	2007/9/23	37:40:00
92	Chance & data	Statistics	Calculating median	2006/9/10	2007/9/24	33:26:00
93	Chance & data	Probability	Probability of simple events	2006/9/11	2007/9/25	42:33:00
94	Chance & data	Probability	Calculating probability	2006/9/23	2007/9/26	37:48:00
95	Chance & data	Probability	Language of probability	2006/9/24	2007/10/7	37:56:00
96	Chance & data	Probability	Equially likely outcomes	2006/9/25	2007/10/8	33:06:00
97	Chance & data	Sets	Venn diagrams	2006/9/26	2007/10/9	39:53:00
98	Chance & data	Probability	Calculation of probability	2006/10/2	2007/10/10	37:56:00
99	Chance & data	Statistics	Language of probability	2006/10/3	2007/10/11	36:20:00
100	Chance & data	Probability	Equally likely outcome	2006/10/4	2007/10/15	39:53:00
101	Chance & data	Keyset	Seem diagram	2006/10/11	2007/10/16	34:51:00
102	Patterns & algebra	Algebra	Revision	2006/10/12	2007/10/17	36:50:00
103	Chance & data	Sets	Revision	2006/10/14	2007/10/18	35:54:00

Appendix 1-4

Science Grade 8 2007 Producation & On air record

Lesson No:	Strand:	Sub strand:	Topic:	Rec Date:	ON Air Date:	Duration:
1	Living things	Nature of Living things	Cells	2007/2/5	2007/2/12	48:25:13
2	Living things	Nature of Living things	Living things Characteristics	2007/2/6	2007/2/13	36:50:23
3	Living things	Nature of Living things	Structures & Funtions	2007/2/7	2007/2/14	32:23:08
4	Living things	Nature of Living things	Reproductive process in plants	2007/2/8	2007/2/15	39:53:15
5	Living things	Nature of Living things	My body	2007/2/12	2007/2/19	38:32:08
6	Living things	Nature of Living things	Reproductive Processes in Human	2007/2/13	2007/2/20	41:12:23
7	Living things	Nature of Living things	Reproductive process in animals	2007/2/14	2007/2/21	31:13:09
8	Living things	Nature of Living things	Comparing reproductive process	2007/2/15	2007/2/22	29:16:17
9	Living things	Nature of Living things	What is in my environment	2007/2/19	2007/2/26	26:19:00
10	Living things	Nature of Living things	Sexual patterns of living things	2007/2/20	2007/2/27	32:41:21
11	Living things	Nature of Living things	Sexual patterns of living things	2007/2/21	2007/2/28	33:14:21
12	Living things	Nature of Living things	Isit worth Living	2007/2/22	2007/3/1	36:31:16
13	Living things	Ecology/Relationship & Interaction	Non-Biodegradable & biodegradable	2007/2/26	2007/3/5	26:19:00
14	Living things	Ecology/Relationship & Interaction	Food Chain	2007/2/27	2007/3/6	30:17:01
15	Living things	Ecology/Relationship & Interaction	Food Web	2007/2/28	2007/3/7	36:32:13
16	Living things	Ecology/Relationship & Interaction	Uses of bio degradable materials	2007/3/1	2007/3/8	33:21:01
17	Living things	Ecology/Relationship & Interaction	Making a compost	2007/3/5	2007/3/12	26:18:02
18	Living things	Ecology/Relationship & Interaction	Importances of Biodegradable materials	2007/3/6	2007/3/13	35:32:12
19	Living things	Ecology/Relationship & Interaction	Uses of non-Biodegradable materials (1)	2007/3/7	2007/3/14	37:32:12
20	Living things	Ecology/Relationship & Interaction	Uses of non-Biodegradable materials (2)	2007/3/8	2007/3/15	41:11:11
21	Living things	Ecology/Relationship & Interaction	Uses & effect overuse of non-bio materials	2007/3/12	2007/3/19	37:28:08
22	Living things	Ecology/Relationship & Interaction	Creating Awareness (1)	2007/3/13	2007/3/20	37:00:05
23	Living things	Ecology/Relationship & Interaction	Creating Awareness (2)	2007/3/14	2007/3/21	26:20:00
24	Living things	Ecology/Relationship & Interaction	Recapping of term 1 lesson	2007/3/15	2007/3/22	33:14:18
25	Science in the home	Learning about substances	We are particules	2007/3/19	2007/4/16	40:02:11
26	Science in the home	Learning about substances	Everything matters	2007/3/20	2007/4/17	41:00:00
27	Science in the home	Learning about substances	Solid - How can I tell?	2007/3/21	2007/4/18	36:50:02
28	Science in the home	Learning about substances	Liquid - How can I tell?	2007/3/22	2007/4/19	38:00:00
29	Science in the home	Learning about substances	Gases - How can I tell?	2007/3/26	2007/4/23	36:50:02
30	Science in the home	Learning about substances	How much is enough?	2007/3/27	2007/4/24	28:22:02
31	Science in the home	Learning about substances	(Volume) The shap makes it hard	2007/3/28	2007/4/25	33:14:18
32	Science in the home	Learning about substances	How hot is this liquid?	2007/4/29	2007/4/26	37:00:05
33	Science in the home	Learning about substances	How do crystal looks like? (1)	2007/4/23	2007/4/30	36:48:13
34	Science in the home	Learning about substances	How do crystal looks like? (2)	2007/4/24	2007/5/1	37:30:22
35	Science in the home	Learning about substances	Make your own drink	2007/4/25	2007/5/2	40:00:01
36	Science in the home	Learning about substances	Why do substances sink/float?(1)	2007/4/26	2007/5/3	39:54:00
37	Science in the home	Learning about substances	Why do substances sink/float? (2)	2007/4/30	2007/5/7	36:22:07
38	Science in the home	Learning about substances	Solids - Hotter or cooler	2007/5/1	2007/5/8	38:42:17
39	Science in the home	Learning about substances	Electrical Conductivity - Solid	2007/5/2	2007/5/9	32:40:22
40	Science in the home	Learning about substances	Expension	2007/5/3	2007/5/10	38:45:39
41	Science in the home	Learning about substances	Let's find Acids	2007/5/7	2007/5/14	29:03:00
42	Science in the home	Learning about substances	Is it Base	2007/5/8	2007/5/15	40:58:14
43	Science in the home	Learning about substances	Is it Acids	2007/5/9	2007/5/16	36:26:04
44	Science in the home	Learning about substances	More about Acids	2007/5/10	2007/5/17	35:41:11
45	Science in the home	Learning about substances	Acids at Work	2007/5/14	2007/5/21	38:12:07
46	Science in the home	Learning about substances	Let's find Bases	2007/5/15	2007/5/22	36:50:24
47	Science in the home	Learning about substances	More about Bases	2007/5/16	2007/5/23	41:05:20
48	Science in the home	Learning about substances	Bases at Work	2007/5/17	2007/5/24	34:53:10
49	Science in the home	Learning about substances	Adding Acids to Base (1)	2007/5/21	2007/5/28	38:32:09
50	Science in the home	Learning about substances	Adding Acids to Base (2)	2007/5/22	2007/5/29	40:58:14
51	Science in the home	Using energy at home	Traditional Dyes	2006/6/20	2007/5/30	30:20:09
52	Science in the home	Using energy at home	General Revesion	2006/6/26	2007/5/31	33:30:06
53	Science in the home	Using energy at home	General Revesion	2006/6/28	2007/6/4	35:41:11
54	Science in the home	Using energy at home	General Revesion	2006/7/19	2007/6/5	30:47:14
55	Science in the home	Using energy at home	What is energy	2006/6/26	2007/7/15	38:25:23
56	Science in the home	Using energy at home	Types of energy	2006/6/28	2007/7/16	38:04:17
57	Science in the home	Using energy at home	Conservation of energy	2006/7/19	2007/7/17	24:19:07
58	Science in the home	Using energy at home	Source of energy	2006/7/14	2007/7/18	34:14:02
59	Science in the home	Using energy at home	Measurment of heat energy	2006/7/25	2007/7/22	38:04:05
60	Science in the home	Using energy at home	Static electric energy	2006/7/26	2007/7/23	26:45:05
61	Science in the home	Using energy at home	Electric circuit 1	2006/7/27	2007/7/24	34:04:12
62	Science in the home	Using energy at home	Electric circuit 2	2006/7/28	2007/7/25	37:12:06
63	Science in the home	Using energy at home	Electric circuit 3	2006/7/27	2007/7/30	31:24:27
64	Science in the home	Using energy at home	Resistances 1	2006/8/1	2007/7/31	38:51:04
65	Science in the home	Using energy at home	Resistances 2	2006/7/27	2007/8/1	30:29:06
66	Science in the home	Using energy at home	Forces 1	2006/7/28	2007/8/5	37:25:22
67	Science in the home	Using energy at home	Forces 2	2006/7/31	2007/8/6	37:38:08
68	Science in the home	Using energy at home	Forces 3	2006/8/7	2007/8/7	37:51:20
69	Science in the home	Using energy at home	Fricton 1	2006/8/8	2007/8/8	37:25:22
70	Science in the home	Using energy at home	Fricton 2	2006/8/9	2007/8/12	22:49:17
71	Science in the home	Using energy at home	Fricton 3	2006/8/10	2007/8/14	31:03:19
72	Science in the home	Using energy at home	What is work	2006/8/11	2007/8/16	39:09:22
73	Science in the home	Using energy at home	Machines	2006/8/14	2007/8/17	38:12:17
74	Science in the home	Using energy at home	Lever-making work easy	2006/8/15	2007/8/20	34:35:23
75	Science in the home	Using energy at home	The law of lever - problem solving	2006/8/21	2007/8/21	38:48:17
76	Science in the home	Using energy at home	The law of lever - problem solving	2006/8/22	2007/8/22	41:20:14
77	Science in the home	Using energy at home	Pulley 1	2006/8/23	2007/8/23	39:00:01
78	Science in the home	Using energy at home	Pulley 2	2006/8/24	2007/8/24	39:14:06
79	Earth & beyound	Our earth & its origin	Pulley 3	2006/8/25	2007/8/27	35:22:17
80	Earth & beyound	Our earth & its origin	Other usefull machines	2006/8/28	2007/8/28	36:05:20
81	Earth & beyound	Our earth & its origin	Efficiency	2006/8/28	2007/8/29	38:48:00
82	Earth & beyound	Our earth & its origin	Inside the earth	2006/8/29	2007/8/30	38:32:03
83	Earth & beyound	Our earth & its origin	Igneous rock	2006/8/29	2007/9/3	36:39:08
84	Earth & beyound	Our earth & its origin	Weathering & soil erosion	2006/9/1	2007/9/4	36:14:02
85	Earth & beyound	Our earth & its origin	Transportation & deposition	2006/9/2	2007/9/9	40:17:01
86	Earth & beyound	Space exploration	Sedimentation	2006/9/3	2007/9/10	37:16:07
87	Earth & beyound	Space exploration	Sedimentary rock	2006/9/4	2007/9/11	37:18:17
88	Earth & beyound	Space exploration	Metamorphic & rock cycle	2006/9/6	2007/9/12	37:16:09
89	Earth & beyound	Space exploration	Fossils	2006/9/7	2007/9/23	32:48:24
90	Earth & beyound	Space exploration	The earths atmosphere	2006/9/8	2007/9/24	38:54:19
91	Earth & beyound	Space exploration	Air is life - water is life	2006/9/11	2007/9/25	37:52:24
92	Earth & beyound	Space exploration	Solar system	2006/9/12	2007/9/26	38:24:03
93	Earth & beyound	Space exploration	Earth, moon & the sun	2006/9/14	2007/9/30	38:04:14
94	Earth & beyound	Space exploration	Telescope	2006/9/14	2007/10/1	34:03:01
95	Earth & beyound	Space exploration	Spaceship	2006/10/3	2007/10/2	30:00:00
96	Earth & beyound	Space exploration	Distance communication	2006/10/4	2007/10/3	30:10:13
97	Earth & beyound	Space exploration	How do we receive TV lessons	2006/10/6	2007/10/7	28:00:11
98	Earth & beyound	Space exploration	Discussion	2006/10/9	2007/10/8	37:29:17
99	Earth & beyound	Space exploration	Revision 1	2006/10/10	2007/10/9	36:48:15
100	Earth & beyound	Space exploration	Revision 2	2006/10/11	2007/10/10	38:00:17
101	Earth & beyound	Space exploration	Revision 3	2006/10/12	2007/10/14	32:31:12
102	Earth & beyound	Space exploration	Revision 4	2006/10/13	2007/10/15	45:20:00

Appendix 1-5

Mathematics Grade 8 2008 Producation & On air record

2008/8/11

No:	Strand:	Sub strand:	Topic:	Rec Date:	On Air Date:	Duration:
1	Number & Application	Fractions	Making a Fraction Wall	2007/2/5	2008/2/11	39:49:00
2	Number & Application	Fractions	Adding & Substracting of Fractions	2007/2/6	2008/2/12	39:09:00
3	Number & Application	Fractions	Multiplying Fractions	2007/2/7	2008/2/13	40:36:00
4	Number & Application	Fractions	Dividing Fractions	2007/2/8	2008/2/14	34:07:00
5	Number & Application	Fractions	Word problems involving Fractions	2007/2/12	2008/2/18	39:49:00
6	Number & Application	Fractions	Place Value	2007/2/13	2008/2/19	32:48:00
7	Number & Application	Decimals	Adding & Substracting of Decimals	2007/2/14	2008/2/20	37:42:00
8	Number & Application	Decimals	Multiplying Fractions	2007/2/15	2008/2/21	38:52:00
9	Number & Application	Decimals	Dividing Decimal Numbers	2007/2/19	2008/2/25	39:42:00
10	Number & Application	Decimals	Word problems involving Decimals	2007/2/20	2008/2/26	34:21:00
11	Number & Application	Decimals	Conversion betwn Fraction & Decimals	2007/2/21	2008/2/27	38:21:00
12	Number & Application	Fractions	Conversion betwn Fractions & Percentages	2007/2/22	2008/2/28	42:35:00
13	Number & Application	Decimals	Converting Decimals to Percentages	2007/2/26	2008/3/3	34:26:00
14	Number & Application	Fractions & Ratios	Fractions & Ratios	2007/2/27	2008/3/4	34:39:00
15	Number & Application	Percentages	Percentage of a Quantity	2007/2/28	2008/3/5	40:14:00
16	Number & Application	Percentages	Discount	2007/3/1	2008/3/6	43:04:00
17	Number & Application	Percentages	Commmission	2007/3/5	2008/3/10	37:12:00
18	Number & Application	Percentages	Simple Interest	2007/3/6	2008/3/11	36:35:00
19	Number & Application	Percentages	Profit & Loss	2007/3/7	2008/3/12	37:17:00
20	Number & Application	Ratio & Rates	Understanding Ratio	2007/3/8	2008/3/13	37:31:00
21	Number & Application	Ratio & Rates	Equivalent Ratio	2007/3/12	2008/3/17	33:45:00
22	Number & Application	Ratio & Rates	Using ratio to solving problem	2007/3/13	2008/3/18	43:46:00
23	Number & Application	Ratio & Rates	Dividing a quantity in a given Ratio	2007/3/14	2008/3/19	42:54:00
24	Number & Application	Ratio & Rates	Increasing/ Decreasing a quantity in a given Ratio	2007/3/15	2008/3/20	39:50:00
25	Number & Application	Ratio & Rates	Understanding Rates	2007/3/19	2008/3/25	32:52:00
26	Number & Application	Ratio & Rates	Comparing Rates	2007/3/20	2008/3/26	40:36:00
27	Number & Application	Ratio & Rates	Problems involving Rates	2007/3/21	2008/3/27	31:28:00
28	Number & Application	Ratio & Rates	Speed, Distance & Time	2007/3/22	2008/4/1	39:28:00
29	Number & Application	Ratio & Rates	Scale Drawing	2007/3/26	2008/4/2	36:19:00
30	Number & Application	Directed numbers	Numbers & Lines	2007/3/27	2008/4/3	32:50:00
31	Number & Application	Directed numbers	Adding & Subtraction directed number	2007/3/28	2008/4/2	31:28:00
32	Number & Application	Directed numbers	Multiplying & Dividing Direct number	2007/4/24	2008/4/14	30:45:00
33	Number & Application	Directed numbers	Order of Operations	2007/4/25	2008/4/15	42:56:00
34	Number & Application	Directed numbers	Number Lines	2007/4/26	2008/4/16	42:08:00
35	Number & Application	Indices	Index Form	2007/5/30	2008/4/17	38:18:00
36	Number & Application	Indices	Using Product & Application	2007/5/1	2008/4/18	36:01:00
37	Number & Application	Indices	Negative & Zero Indices	2007/5/2	2008/4/28	36:11:00
38	Number & Application	Indices	Application of Indices	2007/5/3	2008/4/29	38:55:00
39	Number & Application	Shapes	Part of a Circle	2007/5/7	2008/4/30	29:26:00
40	Number & Application	Shapes	Meauring circumference & diameter	2007/5/8	2008/5/1	35:49:00
41	Number & Application	Shapes	Identifying Pi (π)	2007/5/9	2008/5/5	32:56:00
42	Number & Application	Shapes	Circumference of a circle	2007/5/10	2008/5/6	37:34:00
43	Number & Application	Area	Identifiying the area of a Circle	2007/5/14	2008/5/7	38:10:00
44	Number & Application	Area	Application of Area	2007/5/15	2008/5/8	32:59:00
45	Space & Shapes	Volume	3-D Shapes	2007/5/16	2008/5/12	43:46:00
46	Space & Shapes	Shapes	Circumference of a circle	2007/5/17	2008/5/13	37:34:00
47	Space & Shapes	Volume	Volume of a cylinder	2007/5/21	2008/5/14	38:58:00
48	Space & Shapes	Volume	Volume of a prism	2007/5/22	2008/5/15	35:17:00
49	Space & Shapes	Volume	Volume of a cone	2007/5/23	2008/5/19	33:36:00
50	Space & Shapes	Volume	Application of Volume	2007/5/24	2008/5/20	34:34:00
51	Space & Shapes	Capacity	Understanding Capacity	2007/5/28	2008/5/26	35:52:00
52	Space & Shapes	Capacity	Converting Capacity to Volume	2006/5/29	2008/5/27	29:32:00
53	Space & Shapes	Capacity	Comparing betwn imperial & metric unit	2006/5/30	2008/5/28	36:06:00
54	Space & Shapes	Capacity	Volume & Capacity problem	2006/5/31	2008/5/29	41:21:00
55	Space & Shapes	Angles	Angles	2006/6/4	2008/6/2	35:28:00
56	Space & Shapes	Angles	Commplementary & supplimentary angles	2006/6/5	2008/6/3	31:50:00
57	Space & Shapes	Angles	Parallel lines	2006/6/6	2008/6/4	36:50:00
58	Space & Shapes	Angles	Angles sum of a circle	2006/7/15	2008/6/5	37:13:00
59	Space & Shapes	Angles	Sum of interior angles of polygons	2006/7/16	2008/6/6	32:08:00
60	Space & Shapes	Angles	Relationship of interior & exterior angles	2006/7/17	2008/6/9	39:40:00
61	Space & Shapes	Net	Making solids	2006/7/18	2008/6/10	34:14:00
62	Space & Shapes	Net	More on 3-shapes	2006/7/24	2008/6/11	36:31:00
63	Space & Shapes	Direction	Reading scales on the map	2006/7/25	2008/6/12	37:43:00
64	Space & Shapes	Direction	Bearings	2006/7/26	2008/7/7	28:43:00
65	Space & Shapes	Maps & coordinates	Map & Latitude	2006/7/27	2008/7/8	38:18:00
66	Space & Shapes	Maps & coordinates	Longitude	2006/7/29	2008/7/9	34:05:00
67	Space & Shapes	Decimals	Maps & Coordinates	2006/7/30	2008/7/10	38:58:00
68	Space & Shapes	Algebra	Towns of PNG	2006/7/31	2008/7/14	33:37:00
69	Patterns & algebra	Algebra	Patterns	2006/8/1	2008/7/15	41:31:00
70	Patterns & algebra	Algebra	Adding & subtracting algebra terms	2006/8/5	2008/7/17	39:31:00
71	Patterns & algebra	Algebra	Multiplying & Dividing algebra terms	2006/8/6	2008/7/21	27:50:00
72	Patterns & algebra	Algebra	Distributive laws toexpand algebra expression	2006/8/7	2008/7/22	38:48:00
73	Patterns & algebra	Algebra	Factors & factoriziation	2006/8/8	2008/7/24	36:56:00
74	Patterns & algebra	Algebra	Substitution	2006/8/12	2008/7/25	35:27:00
75	Patterns & algebra	Algebra	Algebra expression in geometry	2006/8/13	2008/7/28	36:30:00
76	Patterns & algebra	Algebra	Silving problem using algebra	2006/8/14	2008/7/29	34:15:00
77	Measurment	Weight	Converting weight to other units	2006/8/15	2008/7/30	36:12:00
78	Measurment	Weight	Weight carts	2006/8/19	2008/8/4	39:27:00
79	Measurment	Weight	Weight & mass	2006/8/20	2008/8/5	37:59:00
80	Measurment	Weight	Problems solving using mass	2006/8/21	2008/8/6	35:48:00
81	Measurment	Time	Time	2006/8/22	2008/8/7	30:01:00
82	Measurment	Time	12 & 24 hour time	2006/8/28	2008/8/11	31:17:00

Appendix 1-5

Science Grade 8 2008 Producation & On air record

2008/8/11

Lesson No:	Strand:	Sub strand:	Topic:	Rec Date:	ON Air Date:	Duration:
1	Living things	Nature of Living things	Cells	2007/2/5	2008/2/11	48:25:13
2	Living things	Nature of Living things	Living things Characteristics	2007/2/6	2008/2/12	36:50:23
3	Living things	Nature of Living things	Structures & Funtions	2007/2/7	2008/2/13	32:23:08
4	Living things	Nature of Living things	Reproductive process in plants	2007/2/8	2008/2/14	39:53:15
5	Living things	Nature of Living things	My body	2007/2/12	2008/2/18	38:32:08
6	Living things	Nature of Living things	Reproductive Processes in Human	2007/2/13	2008/2/19	41:12:23
7	Living things	Nature of Living things	Reproductive process in animals	2007/2/14	2008/2/20	31:13:09
8	Living things	Nature of Living things	Comparing reproductive process	2007/2/15	2008/2/21	29:16:17
9	Living things	Nature of Living things	What is in my environment	2007/2/19	2008/2/25	26:19:00
10	Living things	Nature of Living things	Sexual patterns of living things	2007/2/20	2008/2/26	32:41:21
11	Living things	Nature of Living things	Sexual patterns of living things	2007/2/21	2008/2/27	33:14:21
12	Living things	Nature of Living things	Isit worth Living	2007/2/22	2008/2/28	36:31:16
13	Living things	Ecology/Relationship & Interaction	Non-Biodegradable & biodegradable	2007/2/26	2008/3/3	26:19:00
14	Living things	Ecology/Relationship & Interaction	Food Chain	2007/2/27	2008/3/4	30:17:01
15	Living things	Ecology/Relationship & Interaction	Food Web	2007/2/28	2008/3/5	36:32:13
16	Living things	Ecology/Relationship & Interaction	Uses of bio degradable materials	2007/3/1	2008/3/6	33:21:01
17	Living things	Ecology/Relationship & Interaction	Making a compost	2007/3/5	2008/3/10	26:18:02
18	Living things	Ecology/Relationship & Interaction	Importances of Biodegradable materials	2007/3/6	2008/3/11	35:32:12
19	Living things	Ecology/Relationship & Interaction	Uses of non-Biodegradable materials (1)	2007/3/7	2008/3/12	37:32:12
20	Living things	Ecology/Relationship & Interaction	Uses of non-Biodegradable materials (2)	2007/3/8	2008/3/13	41:11:11
21	Living things	Ecology/Relationship & Interaction	Uses & effect overuse of non-bio materials	2007/3/12	2008/3/17	37:28:08
22	Living things	Ecology/Relationship & Interaction	Creating Awareness (1)	2007/3/13	2008/3/18	37:00:05
23	Living things	Ecology/Relationship & Interaction	Creating Awareness (2)	2007/3/14	2008/3/19	26:20:00
24	Living things	Ecology/Relationship & Interaction	Recapping of term 1 lesson	2007/3/15	2008/3/20	33:14:18
25	Science in the home	Learning about substances	We are particules	2007/3/19	2008/3/25	40:02:11
26	Science in the home	Learning about substances	Everything matters	2007/3/20	2008/3/26	41:00:00
27	Science in the home	Learning about substances	Solid - How can I tell?	2007/3/21	2008/3/27	36:50:02
28	Science in the home	Learning about substances	Liquid - How can I tell?	2007/3/22	2008/4/1	38:00:00
29	Science in the home	Learning about substances	Gases - How can I tell?	2007/3/25	2008/4/2	36:50:02
30	Science in the home	Learning about substances	How much is enough?	2007/3/27	2008/4/3	28:22:02
31	Science in the home	Learning about substances	(Volume) The shap makes it hard	2007/3/28	2008/4/2	33:14:18
32	Science in the home	Learning about substances	How hot is this liquid?	2007/4/29	2008/4/14	37:00:05
33	Science in the home	Learning about substances	How do crystal looks like? (1)	2007/4/23	2008/4/15	36:48:13
34	Science in the home	Learning about substances	How do crystal looks like? (2)	2007/4/24	2008/4/16	37:30:22
35	Science in the home	Learning about substances	Make your own drink	2007/4/25	2008/4/17	40:00:01
36	Science in the home	Learning about substances	Why do substances sink/float?(1)	2007/4/26	2008/4/18	39:54:00
37	Science in the home	Learning about substances	Why do substances sink/float? (2)	2007/4/30	2008/4/28	36:22:07
38	Science in the home	Learning about substances	Solids - Hotter or cooler	2007/5/1	2008/4/29	38:42:17
39	Science in the home	Learning about substances	Electrical Conductivity - Solid	2007/5/2	2008/4/30	32:40:22
40	Science in the home	Learning about substances	Expension	2007/5/3	2008/5/1	38:45:39
41	Science in the home	Learning about substances	Let's find Acids	2007/5/7	2008/5/5	29:03:00
42	Science in the home	Learning about substances	Is it Base	2007/5/8	2008/5/6	40:58:14
43	Science in the home	Learning about substances	Is it Acids	2007/5/9	2008/5/7	36:26:04
44	Science in the home	Learning about substances	More about Acids	2007/5/10	2008/5/8	35:41:11
45	Science in the home	Learning about substances	Acids at Work	2007/5/14	2008/5/12	38:12:07
46	Science in the home	Learning about substances	Let's find Bases	2007/5/15	2008/5/13	36:50:24
47	Science in the home	Learning about substances	More about Bases	2007/5/16	2008/5/14	41:05:20
48	Science in the home	Learning about substances	Bases at Work	2007/5/17	2008/5/15	34:53:10
49	Science in the home	Learning about substances	Adding Acids to Base (1)	2007/5/21	2008/5/19	38:32:09
50	Science in the home	Learning about substances	Adding Acids to Base (2)	2007/5/22	2008/5/20	40:58:14
51	Science in the home	Using energy at home	Traditional Dyes	2006/6/20	2008/5/26	30:20:09
52	Science in the home	Using energy at home	General Revesion	2006/6/26	2008/5/27	33:30:06
53	Science in the home	Using energy at home	General Revesion	2006/6/28	2008/5/28	35:41:11
54	Science in the home	Using energy at home	General Revesion	2006/7/19	2008/5/29	30:47:14
55	Science in the home	Using energy at home	What is energy	2006/6/26	2008/6/2	38:25:23
56	Science in the home	Using energy at home	Types of energy	2006/6/28	2008/6/3	38:04:17
57	Science in the home	Using energy at home	Conservation of energy	2006/7/19	2008/6/4	24:19:07
58	Science in the home	Using energy at home	Source of energy	2006/7/14	2008/6/5	34:14:02
59	Science in the home	Using energy at home	Measurment of heat energy	2006/7/25	2008/6/6	38:04:05
60	Science in the home	Using energy at home	Static electric energy	2006/7/26	2008/6/9	26:45:05
61	Science in the home	Using energy at home	Electric circuit 1	2006/7/27	2008/6/10	34:04:12
62	Science in the home	Using energy at home	Electric circuit 2	2006/7/28	2008/6/11	37:12:06
63	Science in the home	Using energy at home	Electric circuit 3	2006/7/27	2008/6/12	31:24:27
64	Science in the home	Using energy at home	Resistances 1	2006/8/1	2008/7/7	36:51:04
65	Science in the home	Using energy at home	Resistances 2	2006/7/27	2008/7/8	30:29:05
66	Science in the home	Using energy at home	Forces 1	2006/7/28	2008/7/9	37:25:22
67	Science in the home	Using energy at home	Forces 2	2006/7/31	2008/7/10	37:38:08
68	Science in the home	Using energy at home	Forces 3	2006/8/7	2008/7/14	37:51:20
69	Science in the home	Using energy at home	Fricton 1	2006/8/8	2008/7/15	37:25:22
70	Science in the home	Using energy at home	Fricton 2	2006/8/9	2008/7/17	22:49:17
71	Science in the home	Using energy at home	Fricton 3	2006/8/10	2008/7/21	31:03:19
72	Science in the home	Using energy at home	What is work	2006/8/11	2008/7/22	39:09:22
73	Science in the home	Using energy at home	Machines	2006/8/14	2008/7/24	38:12:17
74	Science in the home	Using energy at home	Lever-making work easy	2006/8/15	2008/7/25	34:35:23
75	Science in the home	Using energy at home	The law of lever - problem solving	2006/8/21	2008/7/28	38:48:17
76	Science in the home	Using energy at home	The law of lever - problem solving	2006/8/22	2008/7/29	41:20:14
77	Science in the home	Using energy at home	Pulley 1	2006/8/23	2008/7/30	39:00:01
78	Science in the home	Using energy at home	Pulley 2	2006/8/24	2008/8/4	39:14:06
79	Earth & beyound	Our earth & its origin	Pulley 3	2006/8/25	2008/8/5	35:22:17
80	Earth & beyound	Our earth & its origin	Other usefull machines	2006/8/28	2008/8/6	36:05:20
81	Earth & beyound	Our earth & its origin	Efficiency	2006/8/28	2008/8/7	38:48:00
82	Earth & beyound	Our earth & its origin	Inside the earth	2006/8/29	2008/8/11	38:32:03

Grade 7 Math 2008 Production & On air List

2008/8/11

L# No:	STRAND:	SUBSTRAND:	TOPIC:	REC, DATE:	ONAIR DATE:	DURATION:
1	Numbers & application	Factions	Understanding fractions	4/02/2012	2008/2/11	34:26:00
2	Numbers & application	Factions	Equivalent fractions	5/02/2012	2008/2/12	32:41:00
3	Numbers & application	Factions	Improper fraction & mix numbers	6/02/2012	2008/2/13	34:05:00
4	Numbers & application	Factions	Adding with mix number	2008/2/11	2008/2/18	37:53:00
5	Numbers & application	Factions	Subtracting with mix number	2008/2/12	2008/2/19	33:05:00
6	Numbers & application	Factions	Products with mix number	2008/2/13	2008/2/20	29:57:00
7	Numbers & application	Factions	Dividing with mix number	2008/2/18	2008/2/25	37:47:00
8	Numbers & application	Decimals	Place value & ordering	2008/2/19	2008/2/26	30:10:00
9	Numbers & application	Decimals	Round off decimals	2008/2/20	2008/2/27	31:45:00
10	Numbers & application	Decimals	Addition of decimals	2008/2/25	2008/3/3	38:10:00
11	Numbers & application	Decimals	Subtracting of decimals	2008/2/26	2008/3/4	37:20:00
12	Numbers & application	Decimals	Multiplication of decimals	2008/2/27	2008/3/5	38:34:00
13	Numbers & application	Decimals	Divison of decimals	2008/3/3	2008/3/10	34:16:00
14	Numbers & application	Fractions & Decimals	Fractions & decimals	2008/3/4	2008/3/11	39:36:00
15	Numbers & application	Fractions & Decimals	Fractions of an amount	2008/3/5	2008/3/12	34:58:00
16	Numbers & application	Decimals & percentage	Fractions & percentage	2008/3/10	2008/3/17	40:25:00
17	Numbers & application	Decimals & percentage	Using equivalent fraction	2008/3/11	2008/3/18	35:29:00
18	Numbers & application	Rates & ratio	Converting fraction,decimals & percentage	2008/3/12	2008/3/19	41:23:00
19	Numbers & application	Rates & ratio	Fraction,decimals & percentage equivalent	2008/3/17	2008/3/25	38:15:00
20	Numbers & application	Rates & ratio	Caculating part of quantities 1	2008/3/18	2008/3/26	38:29:00
21	Numbers & application	Rates & ratio	Caculating part of quantities 2	2008/3/19	2008/3/27	39:43:00
22	Numbers & application	Rates & ratio	Finding simpe percentage	2008/3/25	2008/3/31	37:32:00
23	Numbers & application	Rates & ratio	Comparing amount	2008/3/26	2008/4/1	33:15:00
24	Numbers & application	Rates & ratio	Proporting	2008/3/27	2008/4/2	31:00:00
25	Numbers & application	Rates & ratio	Introducing ratio	2008/3/31	2008/4/14	37:41:00
26	Numbers & application	Rates & ratio	Understanding rates	2008/4/1	2008/4/15	32:31:00
27	Numbers & application	Rates & ratio	Comparing rates	2008/4/2	2008/4/16	46:21:00
28	Numbers & application	Rates & ratio	Travel graph	2008/4/14	2008/4/22	40:19:00
29	Numbers & application	Direct Number	Directed number & intergers	2008/4/15	2008/4/23	34:05:00
30	Numbers & application	Directed Numbers	Making directed number - the abacus method	2008/4/16	2008/4/24	32:22:00
31	Numbers & application	Directed Numbers	Integers on the numbrer line	2008/4/17	2008/4/28	32:22:00
32	Numbers & application	Directed Numbers	Directed number on the number line	2008/4/21	2008/4/29	35:34:00
33	Space & shape	Maps & co ordinates	Positive integers & zero on the number plane	2008/4/22	2008/4/30	31:34:00
34	Space & shape	Maps & co ordinates	Integers on the numbrerplane	2008/4/23	2008/5/5	38:40:00
35	Space & shape	Maps & co ordinates	Direct number on the number plane	2008/4/24	2008/5/6	40:13:00
36	Space & shape	Maps & co ordinates	Additiong of negative & positive integer	2008/4/28	2008/5/7	40:39:00
37	Space & shape	Maps & co ordinates	Addition of mix signs & oppsite integer	2008/4/29	2008/5/12	29:16:00
38	Space & shape	Maps & co ordinates	Directed number operations: Adding fractions	2008/4/30	2008/5/13	40:50:00
39	Space & shape	Maps & co ordinates	Directed number operations: Adding decimals	2008/5/1	2008/5/14	40:31:00
40	Space & shape	Maps & co ordinates	Subtraction of integers	2008/5/5	2008/5/19	41:41:00
41	Space & shape	Maps & co ordinates	Directed number operations: Subtracting fractions	2008/5/6	2008/5/20	34:48:00
42	Space & shape	Maps & co ordinates	Directed number operations: Subtracting	2008/5/7	2008/5/21	43:41:00
43	Space & shape	Maps & co ordinates	Multiplication of integers	2008/5/8	2008/5/26	31:34:00
44	Space & shape	Maps & co ordinates	Directed number operations: Multiplying fractions	2008/5/12	2008/5/27	22:58:00
45	Space & shape	Maps & co ordinates	Directed number operations: Multiplying decimals	2008/5/13	2008/5/28	40:53:00
46	Space & shape	Maps & co ordinates	Division of integers	2008/5/14	2008/6/2	33:36:00
47	Space & shape	Maps & co ordinates	Directed number operations: Dividing fractions	2008/5/15	2008/6/3	40:35:00
48	Space & shape	Maps & co ordinates	Directed number operations: Dividing decimals	2008/5/19	2008/6/4	39:28:00
49	Space & shape	Maps & co ordinates	Combined operations	2008/5/25	2008/6/9	37:48:00
50	Space & shape	Maps & co ordinates	Check up on Directed Numbers	2008/5/26	2008/6/10	44:19:00
51	Space & shape	Maps & co ordinates	Estimating lengths	2008/5/27	2008/6/11	37:10:00
52	Space & shape	Length	Choosing units of lengths	2008/5/28	2008/7/7	33:49:00
53	Space & shape	Length	Measuring distances on a map	2008/5/29	2008/7/8	42:41:00
54	Space & shape	Length	Converting between units of length	2008/7/6	2008/7/9	37:13:00
55	Space & shape	Length	Convert units in problem solving	2008/7/7	2008/7/14	36:09:00
56	Space & shape	Length	Parts of a Circle	2008/7/8	2008/7/15	37:53:00
57	Space & shape	Length	Measuring Circumference and Diameter	2008/7/9	2008/7/16	40:52:00
58	Space & shape	Length	Identifying Pi (π)	2008/7/13	2008/7/21	34:11:00
59	Space & shape	Length	Circumference of a Circle	2008/7/14	2008/7/22	34:29:00
60	Space & shape	Length	Solving Problems Involving Circumference	2008/7/15	2008/7/23	42:50:00
61	Space & shape	Angles	Angles	2008/7/16	2008/7/28	37:53:00
62	Space & shape	Angles	Measuring Angles	2008/7/21	2008/7/29	34:11:00
63	Space & shape	Directions	Compass Directions	2008/7/22	2008/7/30	41:17:00
64	Space & shape	Directions	True bearings	2008/7/27	2008/8/4	42:52:00
65	Space & shape	Shapes	Compass bearings	2008/7/28	2008/8/5	36:11:00
66	Space & shape	Shapes	Types of triangles	2008/7/29	2008/8/6	29:09:00
67	Space & shape	Angles & shapes	Angle Sum of a Triangle	2008/7/30	2008/8/11	36:17:00

Grade 7 Science 2008 Production & On air List

2008/8/11

L# No:	STRAND:	SUBSTRAND:	TOPIC:	REC, DATE:	ONAIR DATE:	DURATION:
1	Working Scientifically		Property of substances	4/02/2008	2008/2/11	37:10:18
2	Working Scientifically		Observation made clear	5/02/2008	2008/2/12	23:08:00
3	Working Scientifically		How good is how much	6/02/2008	2008/2/13	37:58:08
4	Working Scientifically		Standard units-instrument & scale	2008/2/11	2008/2/18	37:06:18
5	Working Scientifically		Measuring lengths	2008/2/12	2008/2/19	35:59:04
6	Working Scientifically		Measuring volume	2008/2/13	2008/2/20	32:07:17
7	Working Scientifically		Measuring mass	2008/2/18	2008/2/25	36:51:19
8	Working Scientifically		Measuring temperarue	2008/2/19	2008/2/26	38:37:16
9	Working Scientifically		Measuring temperarue time	2008/2/20	2008/2/27	36:21:16
10	Working Scientifically		Lets draw graphs	2008/2/25	2008/3/3	38:10:23
11	Working Scientifically		Measuring force	2008/2/26	2008/3/4	36:23:09
12	Working Scientifically		What is it like	2008/2/27	2008/3/5	35:01:13
13	Working Scientifically		What do I do	2008/3/3	2008/3/10	32:20:21
14	Working Scientifically		Sorting properties 1	2008/3/4	2008/3/11	36:14:12
15	Working Scientifically		Sorting properties 2	2008/3/5	2008/3/12	36:50:03
16	Working Scientifically		Explain it yourself	2008/3/10	2008/3/17	36:41:08
17	Working Scientifically		What do you think will happen	2008/3/11	2008/3/18	34:54:13
18	Living Things	Nature of Living Things	Keeping in touch 1	2008/3/12	2008/3/19	34:37:04
19	Living Things	Nature of Living Things	Keeping in touch 2	2008/3/17	2008/3/25	33:51:01
20	Living Things	Nature of Living Things	What's happeing around me	2008/3/18	2008/3/26	34:51:10
21	Living Things	Nature of Living Things	Have you got a backbone 1 *Human & Turtle*	2008/3/19	2008/3/27	38:04:01
22	Living Things	Nature of Living Things	Have you got a backbone 2 *Crabs & Beetles*	2008/3/25	2008/3/31	40:48:06
23	Living Things	Nature of Living Things	Nice furthers, what's it used for	2008/3/26	2008/4/1	30:41:31
24	Living Things	Nature of Living Things	Spread your wings & fly	2008/3/27	2008/4/2	31:27:00
25	Living Things	Nature of Living Things	What's that fur	2008/3/31	2008/4/14	35:43:05
26	Living Things	Nature of Living Things	Sells, why do you wear them	2008/4/1	2008/4/15	35:31:05
27	Living Things	Nature of Living Things	What do you do with scales	2008/4/2	2008/4/16	39:31:00
28	Living Things	Nature of Living Things	Glorious gills	2008/4/14	2008/4/22	33:11:09
29	Living Things	Nature of Living Things	What are shoots	2008/4/15	2008/4/23	41:20:28
30	Living Things	Nature of Living Things	Hairy, sticky, smooth or shinny 1	2008/4/16	2008/4/24	34:36:21
31	Living Things	Nature of Living Things	Hairy, sticky, smooth or shinny 2	2008/4/17	2008/4/28	35:02:09
32	Living Things	Nature of Living Things	Hairy, sticky, smooth or shinny 3	2008/4/21	2008/4/29	34:30:19
33	Living Things	Nature of Living Things	What do roots do	2008/4/22	2008/4/30	31:23:19
34	Living Things	Nature of Living Things	Deeper roots - *Tape roots*	2008/4/23	2008/5/5	33:24:15
35	Living Things	Nature of Living Things	Shallower roots - *Fibrous roots*	2008/4/24	2008/5/6	32:21:02
36	Living Things	Nature of Living Things	Are you helpful or harmfull	2008/4/28	2008/5/7	35:55:17
37	Living Things	Ecology, Relationships & Interactions	Who's making that food	2008/4/29	2008/5/12	40:55:22
38	Living Things	Ecology, Relationships & Interactions	Do plants need energy	2008/4/30	2008/5/13	27:16:00
39	Living Things	Ecology, Relationships & Interactions	Why do we need food	2008/5/1	2008/5/14	38:52:16
40	Living Things	Ecology, Relationships & Interactions	The mouth	2008/5/5	2008/5/19	34:58:01
41	Living Things	Ecology, Relationships & Interactions	Swallowing food	2008/5/6	2008/5/20	30:10:00
42	Living Things	Ecology, Relationships & Interactions	Where does the swallowed food go 1	2008/5/7	2008/5/21	37:13:00
43	Living Things	Ecology, Relationships & Interactions	Where does the swallowed food go 2	2008/5/8	2008/5/26	35:03:16
44	Living Things	Ecology, Relationships & Interactions	Where does the swallowed food go 3	2008/5/12	2008/5/27	36:37:13
45	Living Things	Ecology, Relationships & Interactions	What is necessary for burning	2008/5/13	2008/5/28	39:16:02
46	Living Things	Ecology, Relationships & Interactions	Why do we need air	2008/5/14	2008/6/2	32:59:05
47	Living Things	Ecology, Relationships & Interactions	Counting your breathing	2008/5/15	2008/6/3	40:25:04
48	Living Things	Ecology, Relationships & Interactions	What would you like to eat 1	2008/5/19	2008/6/4	36:33:18
49	Living Things	Ecology, Relationships & Interactions	What would you like to eat 2	2008/5/25	2008/6/8	36:01:18
50	Living Things	Ecology, Relationships & Interactions	Whose pyramid is this?	2008/5/26	2008/6/9	32:14:00
51	Living Things	Ecology, Relationships & Interactions	Chain of life 1	2008/5/27	2008/6/10	37:47:05
52	Living Things	Ecology, Relationships & Interactions	Chain of life 2	2008/5/28	2008/7/4	37:54:14
53	Living Things	Ecology, Relationships & Interactions	Web of life 1	2008/5/29	2008/7/7	32:10:17
54	Living Things	Ecology, Relationships & Interactions	Web of life 2	2008/7/6	2008/7/12	28:52:02
55	Living Things	Ecology, Relationships & Interactions	Looking at community 1	2008/7/7	2008/7/13	24:15:04
56	Living Things	Ecology, Relationships & Interactions	Looking at community 2	2008/7/8	2008/7/14	40:49:16
57	Living Things	Ecology, Relationships & Interactions	Sea community	2008/7/9	2008/7/15	39:23:01
58	Living Things	Ecology, Relationships & Interactions	Fresh water community	2008/7/13	2008/7/20	32:10:24
59	Living Things	Ecology, Relationships & Interactions	Savannah community	2008/7/14	2008/7/21	39:50:19
60	Living Things	Ecology, Relationships & Interactions	Grassland community	2008/7/15	2008/7/22	35:42:06
61	Living Things	Ecology, Relationships & Interactions	Forest community	2008/7/16	2008/7/29	44:00:00
62	Living Things	Ecology, Relationships & Interactions	Plants verses plants	2008/7/21	2008/7/30	38:42:04
63	Living Things	Ecology, Relationships & Interactions	Animal verses plants	2008/7/22	2008/8/4	41:37:20
64	Science in the home	Learning about substances	What are materials made of?	2008/7/27	2008/8/5	39:37:14
65	Science in the home	Learning about substances	Solid, liquid & gas - *do they take up space*	2008/7/28	2008/8/6	35:05:13
66	Science in the home	Learning about substances	How do matters behave? *solid,liquid & gas Partic*	2008/7/29	2008/8/11	39:65:00

Appendix 2: List of Japanese Experts

Japanese Experts	Result					
		2005	2006	2007	2008 (planned)	TOTAL
Leader	on site	1.00	2.00	1.50	1.00	5.50
	in Japan	0.00	0.00	0.00	0.00	0.00
Education Planning	on site	3.00	7.50	6.60	2.67	19.77
	in Japan	0.00	0.00	0.00	0.00	0.00
Education TV Program Production	on site	0.00	3.00	6.67	0.50	10.17
	in Japan	0.00	0.00	0.00	0.00	0.00
Education TV Program Production	on site	3.00	2.00		0.00	5.00
	in Japan	0.00	0.00		0.00	0.00
Education TV Program Production	on site	0.00	2.00		0.00	2.00
	in Japan	0.00	0.00		0.00	0.00
Science Education	on site	1.00	3.50	2.00	0.00	6.50
	in Japan	0.00	0.67	0.67	0.00	1.34
Science Experimentation	on site	1.50	4.50	4.40	3.00	13.40
	in Japan	0.00	0.00	0.00	0.00	0.00
Mathmatics Education	on site	3.00	5.00	5.50	2.50	16.00
	in Japan	0.00	0.00	0.00	0.00	0.00
Monitoring/ Evaluation	on site	1.00	1.50	3.00	0.50	6.00
	in Japan	0.00	0.00	0.00	0.00	0.00
Monitoring/ Evaluation	on site	0.00	2.00	1.00	0.00	3.00
	in Japan	0.00	0.00	0.00	0.00	0.00
Pedagogy	on site	0.00	3.50	2.00	0.00	5.50
	in Japan	0.00	0.00	0.00	0.00	0.00
Distance Education	on site	0.00	5.00		0.00	5.00
	in Japan	0.00	0.00		0.00	0.00
School Management	on site	0.00	2.00	1.67	1.00	4.67
	in Japan	0.00	0.00		0.00	0.00
Expert Input (Total) (M/M)		13.50	44.17	35.01	11.17	103.85

Appendix 3: Counterpart Training in Japan

Period: 22 Oct.–6 Nov. 2008
Number of Participnats: 5
Main Topics: –to learn 1. the methodology of TV program producing, 2. how to maintainance the TV sets, and 3. how to implemend the child–centered approach in the classes by observing the Japanese calsses at schools

	Name	Occupation	Title (as of the training period)	Current title
①	Ms.Stephanie Brigita NAKATT	Department of Education, Curiculum Development Division, Media center	Director of Media Center	Acting Manager, Media Center
②	Mr. Madon Marlom KUELINAD	Department of Education, Curiculum Development Division, Media center	Senior TV Producer	TV Producer
③	Mr. Glen BENNY	Department of Education, Curiculum Development Division, Media center	Video Production Supervisor	A/ TV coordinator
④	Mr. Bill AEHE	Department of Education, Curiculum Development Division, Media center	TV Script writer	A/ Editor
⑤	Mr. Tonny Nilkaer MABEN	Department of Education, Curiculum Development Division, Media center	camera man	A/ Gaffer

Appendix 4: List of Project Budget

	FY 2005	FY 2006	FY 2007	FY 2008	TOTAL
Project Staff	195,377	908,423	1,172,992	745,044	3,021,836
Equiment Maintenace	0	1,211,811	2,219,535	900,559	4,331,905
Consumption	917,676	2,795,129	3,211,909	1,284,135	8,208,849
Transportation	1,906,479	5,568,788	2,387,590	1,693,103	11,555,960
Corrresponance	633,023	2,285,339	1,930,387	1,549,744	6,398,493
Reporting	3,173,246	8,594,636	7,377,621	1,781,500	20,927,003
Renting	1,129,372	2,969,970	1,459,781	712,389	6,271,512
Lighting and heating	0	0	0	0	0
Aid-Personnel Recruit./Trair	0	0	0	0	0
Facility Manitenance	14,562	188,054	98,973	52,885	354,474
Local Trainig		4,718,071	2,176,495	611,610	7,506,176
Incidentals	31,010	1,825,540	0	0	1,856,550
	8,000,745	31,065,761	22,035,283	9,330,969	70,432,758
(Round of adjustment)	-745	-761	-283	-969	-2,758
TOTAL	8,000,000	31,065,000	22,035,000	9,330,000	70,430,000
Construction	1,421,000	2,258,000	0	0	3,679,000
Equipment Donation	26,967,000	22,006,000	0	0	48,973,000
Other Equipment Donation	490,000	628,000	0	0	1,118,000
Equipment Donation	0	0	1,788,000	90,000	1,878,000
Contract with Local Consulta	2,405,000	4,832,000	5,456,000	3,723,000	16,416,000
Total	39,283,000	60,789,000	29,279,000	13,143,000	142,494,000

Appendix 5: List of Major Equipment Provided by J

Equipment List 2005

Date of Purchased	Equipment Name	Specification / model	Quantity	Purchased place	Service space
2005/9/	Desk & chair for development materials	1800 DESK Standard with Pedestal 3DRW M/Black C318	6	Brian Bell Company	Resources development room
2005/9/	Lockers	Cupboard Tudor 2door/lock	6	Theoodist	Resources development room
2005/9/	Book shelf	Book case with 3 shelf	6	Brian Bell Company	Resources development room
2005/9/	Computer for Subject	I-SystemP4 3.0/256/80 DD1603 DVD Acer AL1715B LCD	6	Datec	Model teacher room / Resources development room
2005/11/	Computer for Model lesson	Toshiba Satellite A80 Upgrade version	3	Able computing	Model teacher room
2005/9/	Copy machine	Canon image Runner iR2200	1	Datec	Media Centre office
2005/9/	Laser printer	Canon LBP-2000	1	Datec	Media Centre office
2005/9/	Safe	Eagle Safe	1	Theoodist	Media Centre office
2005/10/	Computers for video editing	NITRO E3 Visual Workstation Samsung Monitor L17.10N	2	Pacific International	On-line editing room
2005/11/	Television satellite level meter (signal analyzer)	Promax MC377	1	TE PNG	Maintenance room
2005/11/	Maintenance tools	Sets	1	Bishop Brothers	Maintenance room
2005/9/	Cellular phones	Nokia 1100GSM	5	Daltron/Datec	Expert room
2005/9/	EMTV Transmitter	ABE 200Watts VHF transmitter Satellite Dish KT-10	1	EMTV	Autonomous Region of Bougainville (ARB) Division of Education
2005/9/	Satellite broadcasting receiver material	EMTV Decoder 3meter C band dish with pole Digital LNB, Connector, Coaxial cables	9	TE PNG	TV schools, ARB
2005/9/	Satellite broadcasting receiver Equipment	EMTV Decoder 3meter C band dish with pole Digital LNB, Connector, Coaxial cables	8	TE PNG	East Sepik Province(ESP) TV Schools
2005/9/	Padlocks	Lockwood 234/45	70	Lock Smith Ruswin PNG	TV Schools
2005/10/	Antenna cable, Connectors	Coaxial cables RG-6	200	Brian Bell Company	TV Schools
2005/10/	Antennas 5 element	Digital y5 outdoor VHF TV antenna	5	Hitron	TV Schools
2005/10/	Antennas 10 element	Digital y10 outdoor VHF TV antenna	20	Hitron	TV Schools
2005/10/	Antennas 14 element with booster	Digital y14 outdoor VHF TV antenna	37	TE PNG	TV Schools
2005/10/	29-inch televisions for ARB	Sharp SHROX29E-EF11	34	Brian Bell Company	TV Schools
2005/10/	State of 29-inch televisions for ESP	Sharp SHROX29E-EF12	33	Brian Bell Company	TV Schools
2005/11/	29-inch television for NCD	Sharp SHROX29E-EF13	3	Brian Bell Company	TV Schools
2005/12/	Heavy duty TV Racks for ARB	Barlow industries pty. TV	34	Barlow industries pty	TV Schools
2005/12/	Heavy duty TV Racks for ESP	Barlow industries pty. TV	33	Barlow industries pty	TV Schools
2005/12/	Heavy duty TV Racks for NCD	Barlow industries pty. TV	3	Barlow industries pty	TV Schools

Equipment List 2006

Date of Purchased	Equipment Name	Specification / model	Quantity	Purchased place	Service space
2006.5.	29inch Flat screen Television	Sharp 29L-FG1SA	13 23	Brian Bell	TV Schools (ARB), TV schools / ESP)
2006.5.	Satellite TV Receiving Equipment	For PASB, EMTV Scientific antenna Decoder, Dish for Satellite 2.5m	8	TE PNG	ARB & ESP Model school
2006.5.	Maintenance tools	Multi meter、Driver set、Soldering, others	1Set	Brian Bell, TE PNG	Maintenance room, ARB & ESP Service team
2006.5.	Clip art collection	Graphics Japan Clip arts	3	Sakuraya	Model Teachers rom,On line room
2006.5.	DVD Recorder	Pioneer DVR-630H-S	2	Sakuraya	On line room / off line room
2006.6.	Rechargeable batteries, Charger for the	Kodak Battery & Charger	1 set	Datec	Model studio
2006.6.	Heavy duty TV rack	Balow special	12 21	Balow	ARB & ESP Model school
2006.7.	Web camera for Network	BUFFALO CS-W02G	1	Kikaku Yu (kabu)	Model studio
2006.7.	LAN Router	BUFFALO AirStation54Mbps	2	Kikaku Yu (kabu)	Model studio, Media Centre
2006.7.	Antenna for network	BUFFALO WLE-HG-DYG	2	Kikaku Yu (kabu)	Model studio, Media Centre
2006.7.	Antenna for network	BUFFALO WLE-HG-NDC	1	Kikaku Yu (kabu)	Media Centre
2006.7.	Network cable for antenna	BUFFALO WLE-CC10 Coaxial Cable	4	Kikaku Yu (kabu)	Model studio, Media Centre
2006.7.	Digital camera	Fuji	2	Sofmac	ARB & ESP Division of Education
2006.8.	Antenna, Connectors, Cables	2 way spliter GR6 coaxial cable	1 set	TE PNG	ARB & ESP Model school
2006.9.	Wireless microphone receiver	Sony WRR-861	2	Pacific International	Model studio
2006.9.	Wireless microphone transmitter	Sony WRT-850	4	Pacific International	Model studio
2006.9.	Wireless microphone receiver for students	Sony WRR-861	4	Pacific International	Model studio
2006.9.	Power stabilizer	Power ware FTN 200Amps	77	Brian Bell	ARB & ESP Model schools
2006.9.	Wireless hand microphone	Sony WRT-807A	8	Pacific International	Model studio
2006.9.	Camera cable 26pin	Sony CCZ-A25	1	Pacific International	Model studio
2006.9.	Camera accessories- camera zoom controller	Protech AL500 zoom control	1	Pacific International	Model studio
2006.9.	Lavelia Microphone for teacher	ECM-77BC	4	Pacific International	Model studio
2006.9.	Wave and vector scope monitor	1741PAL Spec	1	Pacific International	Model studio
2006.12.	Sector Analyzer	Acer Computer for Secretary	2	TE	ARB & ESP Service team
2007.1.	DVD Duplicator	Comworks・DVD duplicator	1	Pacific International	Off line studio
2007.1.	DVE Digital mixer	Panasonic AG-MX7	1	Pacific International	Model studio
2007.2.	Lithium ion batteries	ID-X Litium batteries for DSR-250	4	Pacific International	Model studio
2007.2.	Lithium ion batteries Charger	ID-X 240V	1	Pacific International	Model studio
2007.2.	Chemical cabinet	SC100	1	MEDDENT	Model teachers room
2007.2.	Scanner	Canon Scanner	1	Datec	On line room
2007.2.	Inkjet printer	Canon CD printable	1	Datec	Model teachers room
2007.2.	Personal computer, software	Acer Computer for Secretary	1	Datec	Model teachers room
2007.1.	Computer soft wear	Britannica	1	Datec	Model teachers room
2007.2.	Cork board	2100mm x 180mm	7	Theodist	Media Centre
2007.2.	White board	2100mm x 180mm	4	Theodist	Media Centre
2007.2.	Steel TV rack 2 shelves	Steel book shelf	4	Brian Bell	Model teachers room
2007.2.	Steel TV rack 4 shelves	Steel book shelves - 4	4	Theodist	Model teachers room
2007.2.	Filing cabinet	4 dolwer, with lock	8	Theodist	Model teachers room
2007.2.	Cupboard locker	2 door cabinet	3	Theodist	Model teachers room
2007.2.	Tables - holding	Holding table 1800x600x750	3	Theodist	Materials production room
2007.2.	PA amplifier	Toha Wireless mic	1	TE PNG	Model studio
2007.2.	Video camera	HDV Sony video Camera	1	Pacific International	On line room
2007.2.	View finder	View finder for DSR-30P	1	Pacific International	Model studio
2007.3.	Computer software	Adobe After effect academic	1	Datec	On line room

Equipment List 2007

Date of Purchased	Equipment Name	Specification / model	Quantity	Purchased place	Service space
2007.7.	Digital video tapes	Sony 10DVM60R3	350	Fjiya a-vic	Media Centre
2007.7.	Professional digital video tapes	Sony PDV-184N	279	Fjiya a-vic	Model lesson studio
2007.8.	Hydrochloric Acid 37% GR MERCK	55A001367	2.5L	BELLTEK	Model teachers room
2007.8.	Hydrochloric Acid T.G	3HA005B	5L	BELLTEK	Model teachers room
2007.8.	SULPHURIC ACID GR	55B102767	2.5L	BELLTEK	Model teachers room
2007.8.	AMMONIA SOLUTION 25/28% GR	55A000790	2.5L	BELLTEK	Model teachers room
2007.8.	AMMONIA SOLUTION	7H04	1	BELLTEK	Model teachers room
2007.8.	DISTILLED WATER	59DW0010	20L	BELLTEK	Model teachers room
2007.8.	DISTILLED WATER TECH GRADE	59DW0001	5L	BELLTEK	Model teachers room
2007.8.	ETHANOL ABSOLUTE,AR GRADE	55B10107	2.5L	BELLTEK	Model teachers room
2007.8.	METHANOL GR GRADE	55B101586	2.5L	BELLTEK	Model teachers room
2007.9.	Digital camera for science experiment	PENTAX OPTIO W30 SILVER	1	YODOBASHI CAMERA	Model teachers room
2007.9.	Digital camera memory for science experiment	LEXSER SD1GB-810	1	YODOBASHI CAMERA	Model teachers room
2007.10.	Aquarium for science experiment is high.	EMPTY GLASS FISH TANK	1	PNG GARDNER	Model teachers room
2007.10.	Aquarium filter for science experiment	HP-98	1	PNG GARDNER	Model teachers room
2007.10.	Small Aquarium for science experiment	JOKO FISH TANK	1	PNG GARDNER	Model teachers room
2007.9.	FILTER FUNNELS GLASS S/STEM 100MM	MISC5	10	BELLTEK	Model teachers room
2007.9.	FILTER PAPER 90MM PK/100	MISC5	4	BELLTEK	Model teachers room
2007.9.	BEAKER GLASS LF 100ML	MISC5	12	BELLTEK	Model teachers room
2007.9.	BEAKER GLASS LF 250ML	MISC5	12	BELLTEK	Model teachers room
2007.9.	BEAKER PP 1000ML GRAD	MISC5	10	BELLTEK	Model teachers room
2007.9.	GAUZE WIRE SS 150X150 MM	MISC 5	10	BELLTEK	Model teachers room
2007.9.	TRIPOD STAND TRI 127HX125WMM	MISC5	10	BELLTEK	Model teachers room
2007.9.	CONICAL FLASK GLASS 100ML NN GRAD	MISC5	10	BELLTEK	Model teachers room
2007.9.	CONICAL FLASK GLASS 250ML NN GRAD	MISC5	10	BELLTEK	Model teachers room
2007.9.	MEASURING CYLINDER GL 25X0.5ML GRAD	MISC5	10	BELLTEK	Model teachers room
2007.9.	MEASURING CYLINDER GL 100X0.5ML	MISC5	10	BELLTEK	Model teachers room
2007.9.	MEASURING CYLINDER PE 250X2ML	MISC5	10	BELLTEK	Model teachers room
2007.9.	JUGS, MEASURING METRIC PLASTIC 1L	MISC5	10	BELLTEK	Model teachers room
2007.9.	PETRI DISH PL DS, 90X15MM PKT20	MISC5	1	BELLTEK	Model teachers room
2007.9.	PIPETTE PASTURE GLS 146MM/250PK	MISC5	1	BELLTEK	Model teachers room
2007.9.	TEATS FOR PIPETTE ORANGE RIB PK/50	MISC5	1	BELLTEK	Model teachers room
2007.9.	SPATULA METAL LAB,SCOOP 14X175MML	MISC5	10	BELLTEK	Model teachers room
2007.9.	SPATULA METAL SPOON/SPADE 150MM	MISC5	10	BELLTEK	Model teachers room
2007.9.	MOTOR & PASTEL PORCELAIN 100MM DIA	MISC5	10	BELLTEK	Model teachers room
2007.9.	STOPPER RED RUB 16TX13BX14H S PK10	MISC5	3	BELLTEK	Model teachers room
2007.9.	STOPPER RED RUB 25TX18BX28H SPK10	MISC5	3	BELLTEK	Model teachers room
2007.9.	STOPPER RED RUB 36TX28BX30H S PK10	MISC5	3	BELLTEK	Model teachers room
2007.9.	STOPPER RED RUB 42T32BX30H S PK10	MISC5	3	BELLTEK	Model teachers room
2007.9.	TEST TUBE W.RIM 16X150MM/100	MISC5	1	BELLTEK	Model teachers room
2007.9.	CORK BORERS HAND SET OF 6	MISC5	1	BELLTEK	Model teachers room
2007.9.	TUBE GLASS 6MM ODX0.5M PKT/30	MISC5	1	BELLTEK	Model teachers room
2007.9.	TUBE GLASS BOROSILICATE 8MMX1MM/KG	MISC5	1	BELLTEK	Model teachers room
2007.9.	TUBING RUBBER 5X1.5MM/METRE	MISC5	20	BELLTEK	Model teachers room
2007.9.	TUBING RUBBER 6.5DIAX1.5MM/METRE	MISC5	20	BELLTEK	Model teachers room
2007.9.	RECORDING TIMER AND KIT	MISC5	1	BELLTEK	Model teachers room
2007.9.	PAPER ROLL LARGE 172M	MISC5	1	BELLTEK	Model teachers room
2007.9.	CARBON DISCS PKT/100	MISC5	1	BELLTEK	Model teachers room
2007.9.	DISPLACEMENT/VESSEL 250ML M W/SPOU	MISC5	5	BELLTEK	Model teachers room
2007.9.	SPIRAL SPRING SET/5 WIND & HOOK	MISC5	1	BELLTEK	Model teachers room
2007.9.	NEW COMMON SOL OBJ+DIG	MISC5	1	BELLTEK	Model teachers room
2007.9.	MICROSCOPE SLIDE 75X25MM GLASS PK50	MISC5	1	BELLTEK	Model teachers room
2007.9.	COVER SLIP GLASS 22X22MM PKT/100	MISC5	2	BELLTEK	Model teachers room
2007.9.	NEWTON METER 2.5N	MISC5	10	BELLTEK	Model teachers room
2007.9.	NEWTON METER 5N	MISC5	10	BELLTEK	Model teachers room
2007.9.	PH INDICATOR PAPER DISPENSER	MISC5	5	BELLTEK	Model teachers room

Appendix 6: List of Papua New Guinea Counterparts (Project Team Members)

	Position	Name
1	Secretary for Education Chairperson	Dr. Joseph Pagelio
2	Assistant Secretary, Curriculum Development & Assessment Division, Project Manager	Mr. Eliakim Apelis
3	Assistant Secretary, Staff Development & Training , Senior Project Adviser	Mr. Walipe Wingi
4	Director, Curriculum Development & Assessment Division	Mrs Jaking Marimyas
5	Director, Corporate Production & Distribution, CDAD	Mr. Andrew Kuk
6	Manger, National Education Media Centre, CDAD	Ms. Hatsi Mirou
7	Superintendent, Teacher Education Development	Mr. Paul Hamadi
8	Director, PNG Educational Institute	Mr. Caspar Hahambu
9	DEPI Manager – PNG Education Institute	Mr. Iason Isiop
10	Principal Curriculum Officer, Primary	Mr. Steven Tandale
11	Production Team TV coordinator	Mr. Glen Benny
12	Production Team Production Director	Mr. Tonny Maben Mr. Bill Aehe Mr. Gibson Ova Mr. George Solien Mr. Ray Vaka
13	Engineer	Vacant
14	Subject Specialist Media Curriculum officer	Mrs. Antonia Manahave
15	Subject Specialist	Mr. John Kakas Mrs. Betty Pulis Ms. Jane Pagelio
16	Subject TV Model school	Mrs. Pamela Watlangas Mr. Willie Mamata Dumo- Ms. Essa Godua, Ms. Salome Irima, Mr. James Namari, Mr. Michael Kwadogi Ms. Erica Villi, Mr. Frederick Kanau
17	Provincial Education Adviser, ESP	Mr. Joseph Ouyomb
18	Project coordinator	Mr. Timothy Yavu
19	Senior Standard Officer	Mr. Tom Balagawi
20	Chef Executive Officer, Division of Education ARB	Mr. Bruno Babato -
21	Project coordinator	Mr. Michel Meten
22	Senior Standard Officer	Mr. Peter Dosti

ANNEX I　Project Design Matrix ver.2

Project Title	Project for Enhancing Quality in Teaching through TV Program　(“EQUITV Project”)		
Project period(provisional)	July, 2005 – November, 2008 (about 3 and half years)		
Target Beneficiaries	Students and Teachers in the Project Primary Schools in Bougainville and East Sepik Province		
Narrative Summary	Objectively Verifiable Indicators	Means of Verification	Important Assumptions
<Super Goal> Quality of classroom teaching is improved in the primary schools in the country through distance education utilizing TV program.	1. Increase of the number of primary school students who took lessons utilizing TV program (TV lessons) in the country 2. Increase of the number primary school teachers who gave TV lessons in the country 3. Positive change of teachers and students	・Records in DOE based on reports from provincial education offices ・Report on monitoring produced by DOE monitoring team in charge ・Achievement test of students	Priority on basic education in long-term socio-economic development strategy of PNG will not change
<Overall Goal> Quality of classroom teaching is improved in the primary schools of the project provinces through distance education utilizing TV program.	1. Increase of the number of primary school students who took TV lessons in the project provinces 2. Increase of the number of primary school teachers who gave TV lessons in the project provinces 3. Positive change of teachers and students	・Statistical records of provincial education offices ・Report on monitoring produced by DOE monitoring team in charge ・Achievement test of students	Priority on basic education in long-term socio-economic development strategy of PNG will not change

<Project Purpose> Quality of classroom teaching is improved in the project schools through the appropriate use/application/ introduction and regular delivery of distance education utilizing TV program.	1. Increase of the number of primary school students who took TV lessons in the project schools of the provinces 2. Increase of the number of primary school teachers who gave TV lessons in the project schools of the provinces 3. Positive change of the project school teachers (knowledge on the teaching subject / teaching skills / classroom organization) 4. Positive change of the project school students (academic understanding and achievement / attitudes and behavior)	・Statistical records of provincial education offices ・Report on monitoring and evaluation results ・Base line and post-impact study reports ・achievement test of students	1. DOE continue the support to distance education through use of media as appropriate means in the Education Reform 2. Provincial education offices take initiative to expand the appropriate use/application/ introduction and regular delivery of distance education utilizing televised broadcasting in the provinces

<Outputs> 1. TV-lessons of high quality for students are regularly broadcasted	1. Production and transmission of TV lesson programs 2. Improvement of capacity of DOE, NEMC and PNGEI for educational TV program production and management 3. Improvement of knowledge and skill of the model teachers 4. Produce Manuals and Guidelines of a series of activities for counterparts	・Records of TV-lesson production and transmission ・Report on monitoring and evaluation on the training ・Production of guidelines and manuals ・Record of training for systemizing project activities.	1. The EM TV's policy to provide free transmission time for the educational programs will not change 2. Teachers of model & project primary schools who are in charge of this project do not change within a short period 3. The public peace in the project provinces is maintained
2. Teaching methods of teachers in charge of the TV- lesson class in the project schools is improved	1. Production and distribution of guidebooks for project schools 2. Production and transmission of TV lesson programs for teacher training 3. Improvement of knowledge and skill of the TV program receiving teachers 4. Improvement of capacity of inspectors for monitoring 5. Conduct planned number of monitoring	・Records of production and distribution of guidebooks ・Records of production and transmission of TV programs for teacher training ・Records of training ・Report on monitoring and evaluation	

3. Environment for regularly receiving the TV-lessons and teacher-training programs is enhanced	1. Proper installment of TV receiving equipment 2. Increase of assistance for project schools by community people 3. Proper maintenance of TV sets 4. Improvement of capacity of inspectors and maintenance team members for monitoring	・Procurement & distribution records of TV receiving equipment ・Records of training and activities to raise community and family awareness ・Records of community participation ・Report on monitoring and evaluation	
4. Feasibility of expanding distance education utilizing TV Program is examined	1. Submission of the feasibility study report on nationwide expansion of TV lessons 2. Submission of the report on developing a teacher-training program (DEPI) through distance education utilizing TV program	・The feasibility study report on nationwide expansion of TV lessons ・The report on developing a teacher-training program through distance education utilizing TV program ・ Base line and post-impact study reports	

<Activities> 1-1 Organize trainings for staff of NEMC, CDD/DOE and PNGEI, on educational TV program production and management 1-2 Organize trainings for Model teachers at the model primary schools on effective classroom teaching 1-3 Produce TV-lessons program (science and math for G7& G8) 1-4 Revise the produced TV-lesson programs (science and math for G8) 1-5 Systemize a series of the project activities 2-1 Produce and distribute a guidebook for the project schools 2-2 Produce TV programs for teacher training 2-3 Organize trainings for the project school teachers utilizing TV-lesson program 2-4 Organize trainings for inspectors and monitoring team members on monitoring of TV-lesson classes 2-5 Undertake monitoring of TV-lesson classes	<Inputs> <u>PNG Side:</u> (1)Assignment of counterpart personnel (include full time staff) (2)Assignment of administrative personnel (3)Availability of NEMC facilities and staff for project operation (4)Expenses necessary for the implementation of the project (personal expenses, travel expenses, allowances and accommodation for PNG counterpart personnel) (5)Expenses necessary for maintenance and security measures for TV receiving equipment in project schools	<Inputs> <u>Japanese Side:</u> (1)Dispatch of experts a)chief adviser (Japanese side project manager) b)education TV program production c)mathematics d)science e)teachers' training on teaching methods f)monitoring & evaluation g)school management h)audio visual equipment maintenance (2)Training of counterpart personnel in Japan and/or third country (3)Provision of equipment	<Preconditions> 1. Financial support, staffing and other service in kind for execution of this project from DOE maintain present level of operation or more 2. Model classroom with sufficient facility are always available for the TV program production and other project purposes 3. The project schools prepare generators for TV sets

3-1 Procure and provide TV monitors, antennas and anti-theft TV cages to the project schools 3-2 Organize activities to raise awareness of community and family members of the project schools on the importance of education 3-3 Organize trainings for inspectors and maintenance team members on monitoring of maintenance of TV sets 3-4 Organize training on monitoring of maintenance of TV sets 3-5 Undertake monitoring of maintenance of TV sets			
4-1 Conduct a baseline survey 4-2 Submit the report on developing a teacher-training program through distance education utilizing TV program (DEPI) 4-3 Plan and organize activities to encourage schools and community in areas without TV sets to start TV lessons 4-4 Hold Monitoring and Evaluation Seminars 4-5 Conduct a post-project impact study			

５．面談・視察録

【主要面談録】

件　名	モデル教師インタビュー
日時	平成 20 年 8 月 19 日（火）10:15～11:00
場所	メディアセンター・カンファレンスルーム
出席者	［先方］別紙の通り（7 名） ［調査団］又地団長、関谷団員、横田団員、中村団員（記録）

１．モデル教師の役割（以下、モデル教師からのコメント）

・ シラバスから、レッスンプランを作ること。あくまでも一教師であり、カリキュラム作成には携わらない。

・ レッスンプランを作る過程でモデル教師同士の話し合いの場を持つことはある。

・ 教科内容については、現時点では非常に多すぎると思う。間違いを減らす必要がある。

・ 生徒の参加や質問を促すスキルが必要であると感じる。

２．番組の撮り直しについて

・ 自分自身の授業を CD で見直した。それぞれがそれぞれの間違いを見つけるという方法を取った。。

・ 互いに見せ合い間違いを見つけ出すような取り組みは時間の制約からなかなかできなかった。

３．今後の展開について

・ G７の教科内容だとまだ理解が及ばないところがある。もう少しインプットが必要である。

・ （専門家がいなくなったあとどうするか？）インターネットでサポートを得る。あるいは、他のリソースを使うこともできる（大学、カリキュラムオフィサーなど）

・ 大学が一番知識を持っている。

４．受信校生徒との交流について

・ 受信校まで出かけていくような時間はないので、実際の受信校でのテレビ授業を見ることはない。今後もその時間を作り出すことは難しいだろう。

・ セントラルではテレビ授業見に行くことがあった。そこで我々の間違いを見つけることができた。

５．モデル教師のステイタスについて

・ 7 人のうち 3 人が EQUITV ﾌﾟﾛｼﾞｪｸﾄ開始当初からモデル教師をしている。

・ 最初はプレッシャーがあったが、2006 年ころからそのようなことは感じない。

・ 最初は他の学校にも所属しておりモデル教師の仕事と掛け持ちであったが、今ではモデル学校の専属教員となっている。ただし、手当ては変わっていない。

・ 今はモデル教師専属として現在は自分自身の生徒を受け持っていない状況である。

件　名	TV 番組制作委員会
日時	平成 20 年 8 月 19 日（火）11:25～12:10
場所	メディアセンター・カンファレンスルーム
出席者	［先方］別紙の通り（7 名） ［調査団］又地団長、関谷団員、横田団員、中村団員（記録）

１．中間評価時からの変化

・ 2006 年以降制作能力・技術は非常に向上した。以前は帰宅が 10:00 くらいまでになっていたが、今では 5 時ころに業務を終えられる。その理由としては、新しい機材がきたこと、メンバーが増えたこと、技術が向上したこと、が挙げられる。

・ ガイドラインも作成し、役立っている。そのガイドラインはテレビ番組作成とモデル教師用両方に使えるものである。

・ 新しく加わったメンバーは技術面で最初は難しく感じることもあったが大丈夫である。日本への研修やインドネシアへの研修を行った効果もある。

２．今後の必要なもの

・ 研修と新しい機材が必要。

・ これらは教育省幹部が予算をつけるとのこと。

３．メンテナンスに関して

・ テレビ番組制作に加え、ハードのメンテナンスも担当している。遠隔地校でのワークショップも行う。メンテナンスハンドブックも配布したりするなどしている。

・ ワークショップ開催時には、テレビ授業の配信状況を見ることができる。それにより改善すべき点（たとえば BGM が大きいなど）に気づくことができるので、非常によい機会である。

・ これら地方でのメンテナンスのワークショップは今後も継続することができる。

４．モデル教師の能力について

・ テレビ制作の立場から見て、プレゼンのスキルがあがってきた。インターネットから画像を取り込み、魅力的なものに作り上げていくようにしている。

・ 制作側も何を授業で行っているのか理解しないといけない。

５．DEPI について

・ ｺｰｽの目的が Contents を見るだけのものであり魅力的である必要はない。

・ 今後は何を TV 番組として残し、何を教科書に残していくのかという議論は必要である。

件　名	Remote School Assistance Committee
日時	平成 20 年 8 月 19 日（火）12:25～13:00
場所	メディアセンター・カンファレンスルーム
出席者	［先方］別紙の通り ［調査団］又地団長、関谷団員、中村団員（記録）

1．Remote School Assistance Committee の役割

・ 教師へのサポートや教師の教育を行うこと。
・ BOM の役割、責任感の認識の強化を働きかけること。
・ 啓発活動の実施。（パンフレットや紙芝居などを用いている。紙芝居については、瀬田先生とテレビ会議を通して検討会を行った。ピジン語でも作成している。*←現物は会議の場で提示あり）*
・ .TV 授業のマネジメントの強化（2005 年からワークショップを地方においても開催している）

2．啓発活動の展開

・ 啓発活動を行ううえで必ず出てくる課題は財源の確保の問題である。ただしテレビ授業の良さはすぐに伝わるので、自分たちで買うという結果になるところも多い。
・ （ﾌﾟﾛｼﾞｪｸﾄでテレビ機材を供与しているところもあるが、との問いに対し）それに不公平というコメントは出ない。自分たちで購入できたということが、喜びであり誇りであるようだ。
・ 必要なことは先にインスペクター（視学官）を育てること、そしてその知識を District Level に落としていくことである。
・ このﾌﾟﾛｼﾞｪｸﾄの展開としては、昨日の幹部との協議では相当数の遠隔地校にテレビを普及させるという話であったがそこまでのことは現時点ではできない。もちろんコストのかかることなので、啓発活動を続けていく必要がある。
・ EMTV よりデジセル社の方がアンテナの普及が進んでいる。
・ 将来的にはテレビ番組を DVD 化することが考えられる。
・ 啓発活動の結果テレビ導入がどのように進んだのか、という点については各州からメディアセンターに報告があがってくる。東ニューブリテンでは 67 校にテレビが導入された。

件　名	モニタリング委員会
日時	平成 20 年 8 月 19 日（火）13:40～14:10
場所	メディアセンター・カンファレンスルーム
出席者	［先方］別紙の通り ［調査団］又地団長、関谷団員、中村団員（記録）

1．モニタリングの実施時期

・ベースライン、中間、エンドラインでのモニタリングを行っている。

2．モニタリングにおける課題

・ モニタリングの結果を何か今後の改善につなげるという取り組みを行っているわけではない。

・ データ回収については、コミュニティや他の業務との兼ね合いで集められないことが多い。

・ 必要なのはトレーニングである。ナショナルレベル、県レベルでも必要。

件　名	カリキュラムオフィサーへのインタビュー
日時	平成 20 年 8 月 19 日（火）14:10－14:35
場所	メディアセンター・カンファレンスルーム
出席者	［先方］別紙の通り ［調査団］又地団長、関谷団員、中村団員（記録）

1．モデル授業について

・ モデル授業の質はあまりよくない。シラバスから指導書をつくるという作業にしても、たとえば、35 分という限られた時間ではあまりにも短すぎて、内容を詰め込んでいる状態である。

・ カリキュラムオフィサーとしてはモデル教師に指導したり、間違いを修正したりする時間が少ないと感じている。

・ 教科委員会と制作委員会の連携がない。