

CHAPTER 8

PILOT ACTIVITIES

8.1 Summary of Findings from Situation Analysis

8.1.1 Major Issues

Myanmar's teacher education system is centrally planned and administered. This situation has direct implications for the degree to which changes can be introduced and implemented. The following are a summary of the major issues that require systemic reform.

(1) Systemic Issues

- Inappropriate sequencing of pre-service course of study (i.e., methodology, block teaching, academic courses)
- Overloaded teacher education with too many trainees (particularly in-service correspondence course)
- Lack of teacher educators particularly in academic subjects (serious gap between “sanctioned” and “appointed” teaching staff)
- Compressed schedule of teacher training courses
- Insufficient instructional time for in-service correspondence course
- Low salaries and incentives for teachers particularly of primary schools, and for those in remote areas, leading to attrition and lack of professionalism

(2) Pedagogical Issues

- Insufficient learning of concepts
- Trainees to be divided into science stream and art stream at an early stage
- Less emphasis on subject understanding

(3) Teaching/Learning Process in Education Colleges

- Teaching style limited to lecture and demonstration (absence of learner-oriented approach)
- Lack of classrooms, facilities, and teaching/learning materials to support experiments, and project-type study.
- Inflexible daily schedule, which does not take into account principles of adult learning
- Lack of resources (reference books, science laboratory)

(4) Gap between Theory and Practice

- Little reflection of the realities (such as limited classroom space and furniture, few teacher schools, teaching children who do not understand Myanmar, etc.) in the curriculum of teacher education
- Lack of linkage between the field and the curriculum of education college

(5) Lack of Professional Development of Teacher Educators

- Limited opportunities for professional development
- No time or incentives to conduct teachers' research
- Lack of resources (reference books)

8.1.2 Strategies

From an analysis of the current teacher education system, it is clear that quality issues assume priority status. Some strategies to improve the quality of teacher education in the short term are shown in the section below. During the course of the MBESS, the team will focus on some of these strategies; however, systemic issues have to be addressed persistently, as well, for the sustainability of educational reforms.

(1) Pedagogical Renewal

For the child-centered approach, a teacher has to be, first and foremost, a facilitator who helps children discover problems and deal with them in their own way. A teacher should be enthusiastic about the subjects he or she teaches.

- Deepening the understanding of both teacher educators and trainees about the concept of “child-centered learning,” “early childhood development”, and “multi-grade teaching.”
- Developing benchmarks for a child-centered curriculum
- Adding basic strategies for classroom management in the curriculum of the education colleges
- Improving subject matter courses to develop trainees' competence in the content areas.
- Implementing parallel teaching of academic courses and teacher methodology courses, through team teaching in “twinning” arrangements (teaching both components at the same time throughout the year)

(2) Narrowing the Gap Between Theory and Practice

A child-centered curriculum needs to be congruent with developmentally appropriate practices and a child-centered classroom.

- Provision of learner-oriented lessons in education colleges
 - Observation of primary schools and other institutions
 - Utilization of various techniques for active learning in ECs
 - Flexibility in daily schedule of students
- Improvement of Supervision of block teaching
 - More involvement of teacher educators
 - Developing systematic assessment approaches in block teaching
 - Sufficient preparation for both trainees, receiving schools, TEO, and ATEOs

- Linking teacher education with classroom practice: collaboration with primary schools
 - Closer coordination with practicing schools

- Inclusion of practical issues in the curriculum
 - Classroom management (individual/group work)
 - Multi-grade (and multi-age) teaching
 - Teaching children whose mother tongue is different from the medium of instruction
 - Teaching children with learning difficulties (including language, mental and physical disabilities)
 - Students assessment, remedial teaching
 - Counseling

(3) Professional Development

Teacher educators should be given sufficient opportunities to improve their knowledge, and trainees should be given sufficient time to understand and reflect on the practice teaching.

- Providing more chance to attend training courses and workshops
- Supporting action research and continuous professional development
- Providing resources (reference books and guidebooks)

8.2 Designing Pilot Activities

As mentioned above, the current difficult situation in education colleges is not only due to the problems of textbooks, but also due to many other factors. Therefore, in order to support the extension of child-centered approach in the context of education colleges, various approaches need to be taken before the revision of teaching methodology course textbooks. Instead of merely focusing on revision of textbooks, the Myanmar counterpart team and the JICA Study Team set the overall goal of Component B as “**Narrowing the gap between theory and practice**”, and decided to approach this issue from various but focused strategies that are urgent and feasible to implement.

8.2.1 Background of Pilot Activities

Child-centered and activity-oriented learning are keywords for teaching-learning process in basic education schools. The textbooks for education theory and teaching methodology list a total of 21 different teaching methods and encourage trainees to utilize the wide range of teaching methods. Unfortunately, however, most of the trainees had never been taught in such a way in their previous school nor in the ECs. They were not encouraged to be creative, imaginative, and spontaneous in dealing with the subject topics where a teacher acts as a facilitator. The teaching style in many education colleges is still characterized as conventional or traditional, such as rote memorization and chanting responses. Without the experience of being taught in a learner-oriented manner in ECs, lectures of educational theory alone are not sufficient to ensure that child-centered approach is fully understood and the various teaching methodologies are used appropriately by trainees.

At the same time, there is a serious difference between teacher education and the reality that exists in the schools. Lack of space and furniture, one room with all grades and ages of children, and an insufficient number of teachers are some of the realities. Unfortunately, there is little reflection of these realities in the curriculum of teacher education. One of the reasons is that teacher educators have little experience of rural or difficult schools, which are the majority of the schools in this country. Currently, educational theory and educational psychology include some of the functional issues such as assessment and children with learning disabilities; however, the amount is not sufficient to prepare teachers to be able to teach in a difficult situation. It is strongly suggested that more content - theory and techniques- that are useful to the classroom practice should be added.

As described above, the current situation can be summarized as “There is a gap between theory and practice.” Pilot activities, therefore, should aim to “**narrow the gap between theory and practice.**” In determining activities, the following considerations were made:

- Pilot activities should deal with the most urgent problems that the counter part team and the JICA Study Team have agreed upon;
- Pilot activities should be able to be conducted in a feasible time frame, following the school calendar of education colleges; and
- Pilot activities should be replicable and worth expansion after the trial, since the pilot activities to be conducted in phase 2 will be on a small scale.

8.2.2 Understanding the Pressing Issues

There are three major issues that ECs have to tackle in implementing CCA at primary schools.

(1) Trainees are expected to implement CCA in the classrooms of primary schools, but the trainees of Education Colleges have little experience in learning with CCA in their previous schooling. Teacher educators of Education Colleges are not providing a model in the classroom of ECs. Lessons at ECs are generally conducted in a lecture style and force rote learning, which can hardly be a model of CCA. Without the benefit of having had those approaches “modeled”, it is unrealistic to expect trainees to implement CCA in basic education schools.

⇒ **Issue 1: How to teach trainees in education colleges by using Learner-Centered Approach (LCA)**

(2) The concept and the techniques of CCA are not systematically taught in ECs. Different teaching methodology that trainees can utilize and the importance of teaching aids are introduced in the first semester of teacher training course, but the underlying concept is not fully discussed in any subjects. The practical information that is required in the schools in a difficult situation are also absent.

⇒ **Issue 2: What to teach about CCA**

(3) Currently, block teaching is conducted without the supervision of ECs, which makes it difficult to ensure the implementation of CCA in the real classroom. It also makes it difficult for teacher educators to reflect the real situation into the their training of ECs.

⇒ **Issue 3: How to supervise trainees in teaching practice**

Based on this understanding, the following activities were determined to be undertaken.

Issue 1 -> Activity 1: Implementation of selected learner-centered approaches in Education Colleges

Issue 2 -> Activity 2: Documentation of selected child-centered methodologies for use by trainees

Issue 3 ->Activity 3: Utilization of applied research strategies to improve block teaching

For each activity, the working group was formed (**Appendix 8-1**). The detailed explanation of each activity will be made in the following sections.

8.3 Implementation of Activity 1: Implementation of selected learner-centered approaches in education colleges

8.3.1 Objectives of the Activity

Trainees of Education Colleges have little experience in learning with the child-centered approach in their previous schooling. Moreover, with few exceptions, the teacher educators at ECs are not using learner-centered and activity-based methods. Therefore, most of the trainees have not had opportunities to understand the teacher as a facilitator, rather than as a transmitter of information, which is a key concept of the child-centered approach. This activity aims at strengthening the teacher educators' knowledge and utilization of learner-centered methodology and improves the lessons of Education Colleges through the following steps.

8.3.2 Steps

(1) Forming the working group

The JICA Study Team facilitated the establishment of a working group for this activity. The working group consisted of teacher educators of Yankin Education College and Thingangyun Education College, and representatives of DEPT and Myanmar Educational Research Bureau (MERB), who were appointed on a voluntary basis. In connection with Component A activities, at least one teacher educator each for basic science, social science and general studies, respectively, was included as a member. The first working group meeting was held on November 22, 2001, where a consensus on the objectives and approaches of this activity was built.

(2) Introduction of Selected strategies (Session on problem-solving and critical thinking)

A session on problem-solving and critical thinking was held for six days from November 29 to December 7, 2001, where selected strategies to improve lessons were introduced. Since teacher educators at Education Colleges were very busy to teach both in-service and pre-service training courses as well as college-based in-service training courses, only a few selected teacher educators joined, but all of the participants were expected to conduct model lessons using the techniques discussed during the session. The details of this session are described in the following section, **8.3.3**.

(3) Development of Model Lessons

Teacher educators who participated in the "Session on problem-solving and critical thinking) developed lesson plans for the subject that they are in charge of, and conducted model lessons. Both the methodology and the academic department worked as a team, rather than in isolation, to develop lesson plans in the selected areas. There were two main reasons for this: first, this arrangement would serve to minimize the effects of the lack of teaching staff at the education colleges and second, it would serve to promote parallel teaching of methodology and academic courses (teaching both components at the same time throughout the year) as the results of the Phase 1 study suggested.

It was proposed to include teacher educators in charge of general studies, basic science, and social studies from Yankin Education College would participate in this activity, but those in other departments and colleges who have an interest in it also joined to develop lessons. This is because the implementation of LCA should not be limited to three subjects but should be extended to all the subjects in ECs. The detailed procedure will be discussed in 8.3.4.

(4) Evaluation and Extension

After the lesson, the evaluation was conducted by the working group members themselves and by the JICA Study Team (The detailed procedure will be discussed in 8.3.5.).

Based on the results of the evaluation, explanation on the needs for LCA, some techniques of LCA, and the revised lessons plans that utilize LCA techniques were compiled as the LCA Handbook¹. This handbook was developed as a training material as well as reference for teacher educators so that attention was paid to the simplicity and ease of reading in developing the document. The handbook was actually utilized during one-day teacher educators' session of the CCA workshop conducted in nine education colleges during Phase 3.

Based on the feedback from the workshop and group discussion at the working group meeting, the handbook was revised to include more information, though it was kept as simple as possible. After the completion of the English version, it was necessary to have the Myanmar counterparts make the Myanmar version. The discussion on various lesson plans also should continue so that the model lessons for other subjects can be added as well in Myanmar version.

8.3.3 Session on Problem Solving and Critical Thinking

(1) Need for Training

The gap between theory and practice, as the JICA Study Team focus, relates to the finding that, although the textbook on educational theory² used with the trainees includes examples of 21 strategies to promote active learning in the classroom, very few of the teacher educators themselves have had any training in those strategies. Prior to 1992, some training was provided through the mobile teacher training teams (MTT), a UNDP/UNESCO project. Few of the teacher educators have had any professional development opportunities since 1992, including training in active learning and participatory methodologies.

The expectation that trainees will be able to implement child-centered approaches in the classroom, without benefit of having had those approaches "modeled" in their pre-service education, may be unrealistic. Therefore, the JICA Study Team determined an urgent need for training for teacher educators in experiential, active learning.

¹ This was developed by the working group member in a separate report, *Improving Lessons for Active Learning in Education Colleges, - Some ideas on Learner-Centered Approach (LCA)*.

² The course, Educational Theory, includes Part I: Educational Theory; Part II Educational Technology; and Part III Educational Administration. The strategies are taught only in Part II Educational Technology.

The JICA Study Team (Component B) developed a six-day training program³ (November 29-December 7, 2001), for a total of approximately 20 hours, for 16 participants, selected as core members of the working group. The training was designed as participatory, interactive, and experience-based. Content was based on current research and established principles of cognitive learning theory. The training program drew heavily on two guidebooks⁴ produced by the Reading and Writing for Critical Thinking (RWCT) project.⁵ The RWCT project works in collaboration with educators from around the world to improve teaching and learning through critical thinking, across all course content, by developing master teachers as instructional models and resource people for staff development.

The purpose of the training was to have participants experience first-hand a three-part instructional process as a way of deepening their own understanding of the link between theory and practice. The three-part process provides an overall framework for teaching and learning.

The three parts are:

- evoking interest and stimulating students to think about what they know (linking new knowledge with old knowledge) and set a purpose for learning;
- sustaining interest and engagement with the learning activity (e.g., text) and monitor one's own comprehension; and
- consolidating the new learning and taking "ownership" so that long-term learning and in-depth understanding take place.

(2) Procedures

Step 1: Observation and Survey of First-year Trainees

As a first step, the JICA Study Team conducted two activities to learn about the context in which the first-year trainees (primary level) study and more about the trainees themselves. The first activity involved an all-day observation of the classes for both art and science streams. The second involved the administration of a simple questionnaire and the collection of selected background information.

Classroom observation

In order to better understand the contextual constraints, the JICA Study Team observed all the classes on November 9, 2001, for the 200 first-year trainees, in the art and science streams. All first-year Batch Five trainees (AY 2001-2002) are male.⁶ Enrollment in the science

³ Although total time allocated for training remained the same, training format was shortened to five, rather than six days, because of extenuating circumstances.

⁴ A Framework for Critical Thinking Across the Curriculum and Methods for Promoting Critical Thinking.

⁵ Based on the work of Steele, Meredith and Temple (1998), *Methods for promoting critical thinking*, developed in collaboration with the International Reading Association (IRA) and the University of Northern Iowa (USA). The project includes eight discrete but sequential courses taught by certified trainers.

⁶ Of the 19 teacher education colleges in Myanmar, only Yankin and Mandalay Education Colleges, respectively, enroll males. Selection of trainees is made by the DEPT on the basis of high school matriculation examination marks. According to counterparts, on average, males tend to score lower

stream is 110 and 90 in the art stream. All classes are conducted in a large hall (science stream) and in the lecture theatre (art stream).

Classes for the trainees begin at 6:00 a.m. and continue, with virtually no free time, until mid to late afternoon. Thus, project activities, group work, and independent research, which are components of learner-centered approaches, are severely constrained. Details of the trainees' schedule, for Monday of the week to show an example, are found in **Appendix 8-3**.

Trainee questionnaire

A simple form was developed and administered on the day the JICA Study Team observed the classes. The questionnaire consisted of 11 questions, the majority of which asked for background information such as name (optional), home state or division, hometown, age, year of matriculation from high school, previous experience working with children and ages, areas of trainee skills or areas of expertise, and specification of which level of teaching the trainee aspired to (primary, middle school, high school). Other questions asked (1) why the trainee wanted to become a teacher and (2) if there was any other information the trainee wanted to share about himself and his interests.

A total of 150 questionnaires (66 art stream and 84 science stream) were returned in usable form. The total population enrolled in Batch Four was 200 students. The upper age limit for enrollment in the teacher education colleges is age 24; the minimum, the year following matriculation from high school. The median age, for both streams, was age 19. A total of 76 percent of the 150 respondents fell in the 18-20 years of age bracket. The trainees come mostly from Myanmar's rural areas; only 11 out of the 150 respondents come from urban settings.

Strikingly, when asked at what level they hoped to teach—primary, middle school, or secondary school, only one of the 150 aspired to be a primary teacher. A few (N=8) wanted to become middle school teachers. Over 95 percent of Batch Four wanted to become high school teachers even though they were being trained to teach at the primary level. These findings support an observation made earlier by the JICA Study Team on the low status accorded primary teaching in Myanmar and lack of incentives to teach at the primary level.

Review of the reasons given for wanting to become a teacher reflect aspirations that vary from wanting to improve the educational situation for the underprivileged in the rural areas to help bring Myanmar's educational system up to "international standards." Many of the respondents chose teaching because they like the "life style of the teacher." The responses provide a glimpse of how the teaching profession is perceived by the trainees and, irrespective of how realistic or unrealistic that may be, one gets an impression of motivated and thoughtful young men.

on those examinations than females.

Step 2: Selection and Composition of Problem Solving and Critical Thinking Working Group

Members of the working group were nominated by the principal of YEC, and selected in collaboration with the JICA Study Team and YEC coordinators. The final composition of the working group (N=16) consisted of 10 YEC and one TEC teacher educators, two principals (YEC and TEC); educational researcher (MERB); adviser, deputy director, and planning officer (DEPT). A list of the working group members is shown in **Appendix 8-1**.

Step 3: Training Design

The training program in problem solving and critical thinking was conducted at YEC from Thursday, November 29 through Friday, December 7, 2001. The two to three hour sessions were held in the afternoon to accommodate YEC and TEC teaching schedules. The schedule is shown in **Table 8-1**.

Table 8-1: Schedule for Problem Solving and Critical Thinking Session

Date	Training Topic	Materials/ Handouts	Teaching Aids	Duration/ Time
November 29 Thursday	<ul style="list-style-type: none"> • Training needs assessment • Introduction to critical thinking, outcome expectations, and structure of workshop • Part I: Model framework lesson (rationale, framework for teaching & learning, experiencing the framework) • Part II: Analysis of the process • Assignment 	Assessment protocol Expository text (English and Myanmar)	Overhead projector; Flip chart; Markers (12); Masking tape	2 hours 14:30 to 16:30
December 3 Monday	<ul style="list-style-type: none"> • Part II: Analysis of process (continued) • Examining the ERR framework • Critical thinking and the framework • Framework strategies organizational chart • Categorical overview • Part III: Planning for implementation 	Template: framework strategies organizational chart	Overhead projector; Flip chart; Markers (12); Masking tape; Extra paper for participants' use to develop plans	2 hours 14:30 - 16:30
December 4 Tuesday	<ul style="list-style-type: none"> • Part III: Planning for implementation (continued) • Micro-teaching • Formative evaluation 	Glossary of terms Framework for thinking and learning with expository text, Grades Kg-4	Overhead projector; Flip chart; Markers (12); Masking tape	2 hours 14:30 - 16:30
December 5 Wednesday	<ul style="list-style-type: none"> • Overview to methods for promoting problem solving and critical thinking • Part I: Critical thinking examined • Part II: Teacher questioning including model lesson with narrative text 	Narrative text (in English and in Myanmar)	Overhead projector; Flip chart; Markers (12); Masking tape	2 hours 14:30 - 15:30

December 6 Thursday	<ul style="list-style-type: none"> Part III: Analysis of the narrative lesson (ERR perspective, adaptation of Sander's revision of Bloom's taxonomy of questioning, multiprocess questioning, discussion as a learning tool, wait time) Assignment 	Critical inquiry overhead and handout; "Asking Questions"	Overhead projector; Flip chart; Markers (12); Masking tape	2 hours 13:00 - 15:00
December 7 Friday	<ul style="list-style-type: none"> Planning for implementation Micro-teaching Summative evaluation 	Reading materials from the Kg-4 curriculum	Overhead projector; Flip chart; Markers (12); Masking tape	2 hours 13:00 - 15:00

Step 4: Delivery of Training: Summary of Content

As preparation for the first session, reading materials had been distributed (e.g., "What is Critical Thinking?"⁷). Past issues of the Thinking Classroom Journal had been made available to teacher educators at YEC, and to share with colleagues at other education colleges. These provided background information on critical thinking as it is used in classrooms around the world. The first two days of the training program consisted of these major components:

- Presentation of a model lesson;
- Analysis of the process; and
- Planning for implementation.

The participants were introduced to a system of notation that promotes effective reading and thinking. The system, Interactive Noting System for Effective Reading and Thinking or INSERT, requires active participation of the learner throughout the learning activity.

Using this experiential approach, the participants were introduced to the three stages of the instructional process, the framework for teaching and learning and the umbrella framework for the training program on problem solving and critical thinking. The three stages are **E**vocation (evoking interest), **R**ealization of meaning (coming into contact with new information or ideas), and **R**eflection (consolidating new learning). These are referred to as the ERR framework.

Planning for implementation was the next step in the training. Discussion points focused on *where and how the learning framework (ERR) could be implemented*. The participants were asked to identify content lessons from the curriculum and to develop a specific plan for trial implementation (micro-teaching).

Eight of the participants conducted microteaching sessions, in which team teaching was used. The participants collaborated with their respective partners in selection and presentation of the material, using the ERR framework. A total of four groups presented. Topics for *microteaching*, based on the curriculum, included (1) cognitive development, (2) the moon, (3) mosquitoes, and (4) parents. Each of the teams successfully utilized the three-phases of the

⁷ David Klooster, reprinted in *Thinking Classroom*, a Journal of Reading, Writing and Critical Reflection.

instructional process and demonstrated skill in the use of the INSERT method.

In preparation for implementation of the model lessons in YEC classrooms, the next stage of the pilot activity scheduled for January and February 2002, guidelines for developing the model lessons were discussed. This was done in the context of “standards” that should provide the framework for the development of the lesson plans on which the model lessons will be based. A handout on these “proposed standards”⁸ was distributed and discussed. It included the following suggestions:

- Design lessons based on the ERR framework.
- Teach the required curriculum using active learning strategies that encourage participation and critical thinking.
- Use a variety of teaching strategies to maintain interest, encourage participation, and achieve instructional goals.
- Supplement textbooks with additional instructional materials that enrich the curriculum.
- Use a variety of sources to design learning activities that extend beyond the classroom.

8.3.4 Model Lessons

(1) Preparation for model lessons

Following the five-day session, a total of four working group meetings were held. The contents of the discussion are summarized below.

Table 8-2: Pilot Activity 1 Working Group Meetings

	Date	Discussion Topics
1	Dec.11, 2001	1) Discuss learner-centered approaches to be used 2) Discuss the lesson plan format 3) Assignment was given to participants to develop model lessons by the next meeting
2	Dec. 28, 2001	1) Review four lesson plans
3	Jan 2, 2002	1) Review four lesson plans 2) Determine the model lesson schedule
4	Jan 3, 2002	1) Review four lesson plans 2) Finalize the model lesson schedule

As shown in **Table 8-2** above, the working group developed a lesson plan format and an evaluation format in the working group meetings. Each member, including MERB and DEPT staff, developed a lesson plan using some of the techniques of learner-centered approach by the end of December 2001. Those lesson plans were discussed among the working group members and necessary revisions were made. Materials were then developed or prepared according to the lesson plans. However, emphasis was in principle placed on the practicality and replicability of the lessons. The original idea was to conduct model lessons under the

⁸ Based on Reading and Writing for Critical Thinking (RWCT) Project materials.

current class schedule, which is 45 minutes. But all the lesson plans made were to be conducted in two consecutive periods for 90 minutes, because the learner-centered approach generally requires more teaching time. Some lessons that include observation at the practicing school required coordination with the school in advance.

a. Design lesson plans

Each teacher educator who participates developed a lesson plan. The lesson plans were discussed during the meetings and the necessary revisions were made. Materials were developed or prepared according to the lesson plan, however, in principle; they were prepared to be practical and replicable.

The lesson plan format, utilized in MBESS, is as follows.

Figure 8-1: Lesson Plan Format

1. Target learners:			
2. Subject:			
3. Lesson topic:			
4. Learning objectives:			
5. Teaching/learning materials:			
6. Time Required:			
7. Teaching/learning procedures (see below):			
Teaching/Learning Activities	Duration	Teaching materials	Important points in Teaching Learning Process
<u>Evocation</u>			
<u>Realization of meaning</u>			
<u>Reflection</u>			
8. Assessment:			

Each lesson plan includes, in addition to the target learners (i.e., first-year trainees), the subject, lesson topic, learning objectives, teaching/learning materials, and procedures. Procedures include planned activities of the teacher, activities of the students, duration of the respective activities, teaching materials, and “important points,” as a reminder to the teacher while conducting the lesson itself.

b. Design evaluation

Evaluation methods were determined and the questionnaire for trainees for evaluation purposes was developed.

(2) Conducting Model Lessons

Model lessons are basically implemented under the current class schedule. However, it was necessary to rearrange the time schedule to some extent. Some activities required coordination with primary schools outside of the college. The model lessons were conducted for 6th batch students of YEC for the first semester course. Each lesson was videotaped and observed by working group members. Through this activity, the working group members also learned how to use a video camera for lesson reviews. Everyday after the lessons were conducted, the working group members held an evaluation session. There, teacher educators were encouraged to make suggestions on other teachers' lessons while reviewing the lessons through videos. The JICA Study Team facilitated the sessions, and made suggestions as well.

Model lessons were conducted according to the following schedule.

Table 8-3: Model Lessons Conducted

Date	Period	Section	Subject	Instructor
10-Jan Thu	9:30-11:00	1	Teaching Methodology of English	Daw Khin Sein Win Daw Tin May Win
	11:00-12:30	1	Education Psychology	
	14:30-16:30		Discussion	
11-Jan Fri	13:00-14:30	2	Teaching Methodology of Social Studies	Daw Nu Nu Yi
	14:30-16:00		Discussion	
15-Jan Tue	10:00-11:30	3	Teaching Methodology of Basic Science	Daw Wai Wai Oo Daw Aye Aye Win
	11:45-13:00	3	Education Psychology	
	13:45-16:00		Discussion	
16-Jan Wed	9:30-11:00	4	Teaching Methodology of Social Studies	Daw Myint Myint Than
	14:30-16:00		Discussion	
28-Jan Mon	9:30-11:00	2	Education Theory	Daw Han Han Thi Daw Tin Tin Win Daw San Khin
	11:00-12:30	2	Teaching Methodology of General Studies	
	13:45-15:15	2	Teaching Methodology of Mathematics	
	15:15-17:00		Discussion	
29-Jan Tue	9:30-11:00	3	Teaching Methodology of Basic Science	U Tin Than Daw Ni Ni San Daw Thundar Aung
	11:00-12:30	3	Teaching Methodology of Mathematics	
	13:45-15:15	3	Teaching Methodology of Social Studies	
	15:15-17:00		Discussion	
6-Feb Wed	9:30-11:00	3	Educational Theory	Daw Tin Tin Shu Daw Tin Tin Ye
	11:00-12:30	3	Teaching Methodology of General Studies	
	14:30-16:30		Discussion	

(3) Second Review of Model Lessons

Although the evaluation session was held after each model lesson was conducted, the revisions were not made accordingly because of the absence of JICA Study Team in Component B. The second review of Model Lessons was made at the beginning of Phase 3. Teacher educators were accustomed to work alone and not accustomed to give feedback to one another, but they practiced to give constructive feedback to improve the lessons.

(4) Synthesis of the Model Lessons

Some techniques that were utilized in the model lessons and proved to be effective are shown below.

a. Evocation/Realization of meaning/Reflection Stage

All the lessons were structured to have three stages: evocation, realization of meaning and reflection stage (ERR framework), and various activities were designed for each stage (e.g. at the evocation stage, brain storming or think-pair strategy was used.)

b. Observation in primary school

In the educational psychology class, observation at the practicing school was included for the topic of child development. After trainees received briefing, they visited the practicing school and observed different grades of children. Since they were instructed what to observe, they took notes while observing children's behavior. After the observation, trainees came back to class, summarized their findings in groups and made presentations. This proved to be very effective in that trainees understood the stages of child development by observing children, not merely by being instructed.

c. Utilization of videotaped lessons

A video was used in education theory class. Two kinds of lessons, one with teaching-learning materials and other one without teaching materials, were shown to trainees. Observing the differences, trainees understood the importance of using teaching-learning materials well. This approach seems to be effective particularly when the number of the trainees is large or when it is difficult to observe real primary school classes.

d. Group work

Many model lessons utilized the group work method. Trainees were asked to discuss, make presentations, create materials, and practice how to use the materials in groups.

e. Science experiments

A science experiment was introduced in one class on teaching methodology of basic science, whose particular topic was magnets. Since several kinds of science experiments are to be introduced in the Teacher's Guides prepared in Component A, at least those science experiments should be covered in the lessons at Education Colleges. For most trainees, this model lesson was the first occasion ever to conduct a science experiment for themselves.

Trainees' reaction to these model lessons was quite remarkable. They particularly showed great interest and motivation in model lessons with classroom observation and experiments. One of the points that were often discussed during the evaluation sessions was the gap between teacher educator's expectation and reality. For example, a teacher educator may assume that trainees have a certain level of knowledge about teaching materials or a certain level of experience in working as a group. When class starts, she or he quickly realizes that the

trainees do not have any such prior knowledge or experience. This implies that the conventional teaching methodology used at Education Colleges was simply to transmit information to the trainees regardless of their receptivity or understanding.

Another area to be strengthened is the reflection stage, where trainees reflect on what they have learned and develop their own thinking. Model lessons tended to focus on process-oriented activities, and little attention was paid to giving trainees a chance to deepen their thoughts, such as a writing assignment or small research project.

8.3.5 Evaluation and Extension

As the last activity in the training program on problem-solving and critical thinking, an evaluation form (**Appendix 8-4**) was distributed. The overall response to the workshop on problem solving and critical thinking was very positive. The most important conclusion that can be drawn from the evaluation is that the trainees as a group liked the workshop methodology and indicated an interest in learning more about it.

Since structured interviews with the working group members, following the model lessons, were not feasible, the JICA Study Team in February 2002 developed an evaluation instrument to obtain information, in addition to review of the videotapes and lesson plans.

A letter, dated February 27, 2002, was sent to each of the working group members, along with a simple evaluation form. All of evaluation forms were completed and returned. The evaluation form, "Self-Evaluation of Model Lesson in Problem Solving and Critical Thinking," includes the following questions:

- 1) What changes, if any, did you make in your lesson as it unfolded?
- 2) What were the strengths of your lesson?
- 3) How would you change the lesson to make it better?
- 4) Based on having presented this model lesson, what training would you find most useful in the future?
- 5) Any other comments such as feedback from the trainees?

Although the main purpose of the self-evaluation was to assess how the lessons could be improved in the future, and to gather general impressions, a corollary purpose was served. The evaluation form provided the working group members an opportunity to reflect on and formulate their personal reactions to the model lessons, after a hiatus of some weeks.

With respect to the first question three of the 14 respondents did not make any changes. The major change mentioned by the other respondents (e.g., omitting some planned activities) was related to the frequent comment that the time allowed (1.5 hours) to carry out the activities was insufficient. Three respondents mentioned that they added strategies as the lesson unfolded in order to make it more "understandable and interesting."

With regard to perceived strengths of their lessons (Question 2), 11 respondents frame their

answers in terms of the lesson's effect on the trainees. Examples include:

- "All learners can have opportunities of participation in problem solving and critical thinking"
- "Students are engrossed in learning"
- "Trainees got opportunities for critical thinking...getting information...having problems to solve...making reasoned arguments and sharing ideas with a group to solve a problem."

When asked how they would change the lesson to make it better, four respondents said they would not change anything ("not able to change," "not going to change," "I don't think it needs to change," "I have no good idea to modify my lesson better").

The other respondents framed their response within the context of scheduling considerations, i.e., the allocation of time. One respondent said, "Two periods of time is very short for the topic." Several struggled with ways to improve the lesson by using different strategies that could be used for the respective instructional stages.

The next question asked what training the working group members would find useful in the future, based on their experience of conducting the model lesson. The majority of the respondents mentioned they would like more training in methods to promote problem solving and critical thinking and, in general, more on teaching methodologies. Some indicated specific areas such as teaching of language and more on child-centered learning. All of the respondents indicated they would like training of some kind in the future.

Most of the respondents indicated considerable interest in incorporating the training in the teacher education curriculum. Examples include:

- "...very useful for 1st and 2nd year pre-service training courses and correspondence course of teacher education for middle school teachers"
- "Having presented this model lesson, I found it to be very useful for the teacher trainees in the future."

Although a few said they did not get any feedback from the trainees, the majority of respondents indicated positive to very positive reactions from the trainees' perspective. Some of these include:

- "Trainees...were interested in the model lesson and thought it was a good thing to have discussed within groups"
- "Since it is not the usual way of teaching the children are interested and happy...they don't feel sleepy and ...the lesson did not give them boredom but happiness"
- "...interested in taking part in the activities"
- "Positive feedback"
- "The trainees are ...happy...all the trainees actively participated"
- "Strategies of critical thinking make the students happy...they are expecting that kind of experience...when I create new strategies, the students participate very actively"

- "...by observing them, I became aware that they like working in groups enjoy observing and are interested in discussion in a group."

Based on the results of evaluation, a handbook was developed that contains explanation on the needs for LCA, some techniques of LCA, and the revised lessons plans utilizing LCA techniques were compiled as LCA Handbook⁹. This handbook was developed as a training material as well as reference for teacher educators so that particular attention was paid to the simplicity and easiness of reading, and applicability in developing the document.

The handbook was actually utilized during one-day teacher educators' session of the CCA workshop conducted in nine education colleges during the Phase 3. The working group members played a role as a facilitator and conducted activity-based workshop using the material. The videotape that recorded three model lessons was also utilized during the workshop to show the three stages of lessons (evocation, realization of meaning, and reflection), and activities of trainees.

The English version of the material was used during the workshop and in some workshop, this hindered understanding of some teacher educators. Although the contents were fairly simple, it was not easy for some teacher educators to fully understand the concept of LCA, and many participants requested to hold such activity-based training more often and provide them with more information.

Based on the feedback from the workshop and group discussion among the working group meeting, the handbook was revised to include more information, though was kept simple as possible. After the completion of English version, it is necessary to make Myanmar version by the Myanmar counterparts and the discussion on various lesson plans also should continue so that the model lessons for other subjects can be added as well in Myanmar version. The Myanmar version materials can be distributed to education colleges with the supplemental workshop to ensure their application in the classroom of ECs.

⁹ This was developed by the working group member in a separate report, *Improving Lessons for Active Learning in Education Colleges, - Some ideas on Learner-Centered Approach (LCA)*.

8.4 Implementation of Activity 2: Documentation of selected child-centered methodologies

8.4.1 Objectives of the Activity

This aims at providing practical knowledge and tips for the child-centered approach targeted for trainees and teacher educators. This activity responds to the question of what to teach about CCA in the pre-service training course.

Currently, teaching of the “child-centered approach” in Education Colleges is often limited to the effective use of teaching-learning materials or development of low-cost/no-cost teaching-learning materials. The concept of the child-centered approach is not particularly emphasized in the theory or teaching methodology classes where trainees learn some teaching techniques and sample lesson plans for selected topics. Both trainees and teacher educators have little experience being taught with the child-centered approach. Therefore, it is not an easy task to disseminate this new approach in the mold of conventional teaching methods. The objective of this activity, therefore, is to develop an easy-to-use guidebook on the child-centered approach that describes the concept and useful teaching tips with some concrete examples. The guidebook is intended for the use of Education College trainees.

8.4.2 Steps

The main steps taken for this activity are described below:

(1) Form working group

JICA team facilitated the establishment of a working group. The members were mostly the same as those in Activity 1, including teacher educators of YEC and TEC, and representatives of DEPT and MERB. The first working group meeting was held on November 22, 2001, where a consensus on the objectives and approaches of this activity was built. The major activities, however, took place during the end of Phase 2 and Phase 3.

(2) Needs assessment

Prior to designing a module, it was necessary to deepen the understanding of the working members and the JICA Study Team on the situation of rural schools. For that purpose, three schools were observed in the villages of Thandwe, Kyauk-kyi, and Gwa in Rakhine State in January 2002. The main foci were to understand the difficulties and possibilities for the implementation of child-centered learning in the rural schools and to understand the current situation of multi-grade teaching in small-scale schools. The following are the major findings:

- Many primary schools in Rakhine are small-scale, and multi-grade teaching is a common practice. Usually there are 2 or 3 school teachers besides a headmaster in one school.
- All three schools had classrooms without partitions. A few teachers, each of who are teaching two or three grades, use the big classroom simultaneously. Therefore

noise from other sections can be a disturbance.

- Teaching-learning materials are minimal, but the schools are equipped with at least a few charts. Some schools have some teaching-learning materials such as cards and notebooks provided by other donors.
- Most teachers that we observed did not receive any training teaching after they finished school. Primary school teachers have little understanding of the concepts and techniques of CCA and multi-grade teaching, though there was a few teachers who performed exceptionally well.
- Many lessons are still offered in lecture style. Even when students' activities were introduced in the lessons, the objectives and effectiveness of those activities were not well designed by the teachers.
- In order to conduct multi-grade teaching, well-designed teaching/learning materials are indispensable, because multi-grade teaching requires more individual and group activities without the presence of a teacher.

Certainly teachers need to gain more knowledge of and be more proficient in the usage of various teaching techniques for active learning, however, it seemed to be a more urgent task to deepen their understanding of CCA concepts, and to motivate them to change their behavior through training or workshops.

(3) Developing documents

Following the needs assessment of Phase 2, the working group meetings were held to discuss the contents of the documents in Phase 3. First, the team discussed what kind of questions would be raised in CCA when CCA was first presented to trainees. The following are some of the questions that were proposed.

- What is CCA?
- What is the difference between CCA and traditional teaching (teacher-centered) style?
- Why is CCA important? What are its merits?
- What are the roles of the teachers?
- What kind of methods / techniques can be used?
- Can we use various kinds of teaching methods for the same topic?
- What kind of assessment will be used in CCA?
- Who will evaluate the appropriateness of teaching methods of CCA used in the classroom?
- Where can I find extra information about CCA? Where can I find help for teaching techniques and materials for CCA?
- What kind of class size is more appropriate for CCA? If the class size is large, what should we do?
- What kind of seating plan is more appropriate for CCA?
- Is cooperation with parents needed for CCA?

- If CCA is employed in all lessons, is it possible to finish the whole curriculum on time?
- How can I develop a lesson plan with CCA?
- How can I improve classroom environment to implement CCA successfully?

The working members discussed each question and formulated answers, spending a whole day. This was a good exercise for the working members to deepen their thoughts on CCA and to have consensus on the concept of CCA among the group.

The JICA Study Team's understanding was that in the training course of ECs as well, the process of finding these answers should be emphasized, rather than providing the answers at the beginning without giving a chance to think. As noted earlier, the teaching style of ECs are mostly still limited to lecture style and all teacher educators are not capable of conducting activity-based lessons. There may be a risk, therefore, that if "a manual" is handed over, teacher educators may use it for rote learning purpose only.

Originally, the working members planned to develop a concise manual for CCA concepts and techniques, but due to the reason stated above, decided to develop training materials with which trainees can deepen understanding and gain knowledge of CCA, based on a self-study approach. The training materials were developed in the use of trainees through mini-workshops or some periods of a teaching methodology course in the first semester¹⁰.

CCA is a broad concept that provides a platform for all other teaching theory and methodology courses. It includes the aspects of children's psychology, teachers' attitudes, usage of teaching learning materials and aids, teaching techniques, subject matter knowledge, and communication with other stakeholders. Thus, ideally, the whole teacher-training curriculum needs to be reviewed and reformulated from the CCA's point of view in the near future, but it will take some time to revise the curriculum completely. Meantime, CCA needs to be taught regularly to pre-service trainees, focusing on the basic concept of CCA. It is hoped that the training material is to be utilized in the pre-service teacher-training course until the concept of CCA is diffused in ECs and each teacher educator teaches his/her subject from the CCA's point of view.

¹⁰ For the details, please refer "*Understanding Child-Centered Approach, for Teachers in New Era*".

8.5 Implementation of Activity 3: Utilization of applied research strategies to improve block teaching¹¹

8.5.1 Objectives of the Activity

Monitoring and supervision of trainees are critically important during the two-month block teaching experience. Currently, however, the ECs do not participate in the selection of schools for block teaching, nor in the monitoring and supervision of the trainees. This is because at present trainees are sent to their hometown far from Yangon to conduct block teaching. Thus, teacher educators do not know either how trainees are teaching at block teaching schools or how a headmaster and other teachers are supervising training. ECs, therefore, cannot provide appropriate guidance to improve trainees' practices. Through this pilot activity, it was expected that teacher educators would find out the real situation of block teaching, ways to improve the quality of block teaching for the future. Selected applied research techniques such as interviews, observations and reporting were utilized to document the trainee's block teaching experience. This aimed at enabling teacher educators to acquire research skills for their continuous efforts to change some aspect of teaching practice.

8.5.2 Steps

This was a research activity reviewing the current block teaching practice, and selected applied research techniques were utilized to the extent feasible, to document the trainee's block teaching experience. This included information for the teacher educator on different ways to collect data such as journal entries, interviews, observations, and the analysis and reporting of data. Teacher educators visited selected block teaching schools during the block teaching period, and observed the current practices as well as interviewing the concerned personnel. For most of the teacher educators, this was the first research that they have conducted and the procedures needed to be discussed step by step.

(1) Forming the working group

The JICA Study Team facilitated the establishment of a working group. The working group consisted of some teacher educators of YEC and TEC, and representatives of DEPT and MERB who were interested in improving block teaching practice.

(2) Orientation session for action research

A half-day was spent in one session for this activity. During the session, the group analyzed problems associated with the current block teaching practices and discussed the areas to be focused on in action research. Basic techniques of data collection such as questionnaires, interviews, journals and classroom observation were discussed.

(3) Preparation for research

Following the orientation session, the group held meetings to discuss the research strategy.

¹¹ For more detail results, please refer the separate document "*Action Research on Block Teaching – Review of Current Practice and Some Suggestions*".

During the first meeting, the results of problem identification were reviewed. Based on the identified problems, the group considered what research questions should be asked for each problem, and how they should be answered.

The group designed the research so that they would observe block teaching activities of selected trainees. Since most of the trainees of YEC came from various states and divisions throughout the country and, therefore, their block teaching schools were far from Yangon, the group selected trainees from TEC as well. As a result, seven trainees from YEC and 44 trainees from TEC whose block teaching schools are in or close to Yangon were selected. Their block teaching schools were distributed in five townships: Thanlyin, Mhawbi, Khayan, Hlegu, and Dala. In order to see the effects of close communication and coordination between ECs and block teaching schools on the quality of block teaching, the group conducted a small-scale experiment. Among the five townships, Thanlyin (15 trainees in 3 schools), Mhawbi (15 trainees in 5 schools), and Khayan (5 trainees in 5 schools) received intervention (experimental group), and Hlegu (10 trainees) and Dala (5 trainees) did not receive any intervention (control group).

For the experimental group, an orientation about block teaching was given, and close communication and coordination between the Education Colleges and the Township Education Offices/block teaching schools was established. In addition to that, the working group requested the block teaching schools to assign a cooperating teacher for the supervision of trainees.

(4) Field research

In order to answer the research questions, the following strategies were taken.

a. Interviews with trainees

Interviews with those selected trainees were conducted to see the readiness of the trainees before block teaching. They were interviewed on December 6 and 7 at YEC and TEC.

b. Introduction of the Block Teaching Journal

In order to understand what is happening in the block teaching, the group decided to utilize the journal and ask trainees to keep one during the period. A journal not only tells a trainee's daily activities but also makes the trainee more involved in the activities and deepens their thoughts, because the journal requires the trainee to do research on some aspects of his or her school such as the school calendar or community involvement. The journal will be a valuable means for trainees to reflect on their experiences, and for teacher educators to understand the trainees' activities in the school. Another objective was to see the future possibility of utilizing the journal to assess trainees. The translated version was distributed to trainees with necessary explanations after the first interviews.

c. Discussion with Township Education Offices (TEOs) / Block Teaching Schools

The group held an orientation session with the experimental townships. During this orientation session, the following subjects were covered:

- Roles of headmaster/headmistress and cooperating teacher
- Request to assign a cooperating teacher
- Introduction of the new assessment sheet
- Introduction of block teaching journals
- Schedule of supervision of block teaching by the working group

The group requested each school to assign a cooperating teacher who would be responsible for supervising trainees' daily practices, since the principal or Assistant Township Education Officer (ATEO) is not able to supervise their daily activities.

d. Introduction of New Assessment

The group reviewed the current method of assessment used for block teaching and pointed out the following problems:

- Assessment is made only by lesson observation;
- Assessment is made only with respect to teaching techniques, and not with respect to how to work with students;
- There are no indicators to measure if the child-centered approach is taken; and
- Evaluators are not clearly known.

Therefore, the following two assessment sheets were developed as a trial.

Marking Scheme Form for Block Teaching (Observation of Final Lessons)

This is a modified version of the original "Marking Scheme Form for Block Teaching" currently used for assessment. Some indicators of the child-centered approach were added. This sheet is to be filled in by the respective subject teacher who observes the trainee's lessons.

Assessment of Trainees

This is a new addition. This sheet is to be filled in by the cooperating teacher after he/she has supervised a trainee for two months. Both descriptive assessment and grade (A-C) should be recorded.

e. Interviews with ATEO, headmasters, teachers, and trainees

In order to observe the current situation, interviews were conducted both in experimental group townships and control group townships. The group interviewed ATEO, headmasters, teachers and trainees in separate rooms so that they could express their opinions freely. Interviews were organized in such a way that it was possible to cross-check the responses of different parties.

f. The final visit to schools

The group visited schools again to observe trainees' lessons and have informal discussion with schools on block teaching.

g. The follow-up session for trainees

When trainees returned to their Education Colleges in April, a follow-up session was conducted. Those trainees were interviewed and the results of follow-up session were analyzed.

The activity schedule of Pilot Activity 3 is summarized below.

Table 8-4: Pilot Activity 3 Working Group Meetings and Activities

Date	Activities
Nov. 22	Working group meeting 1 1. Form working group 2. Discuss the activity
Nov. 28	Orientation session for Action Research
Dec. 3	Working group meeting 2 1. Review problems 2. Determine the research topics 3. Discuss research methodology
Dec. 4	Working group meeting 3 1. Determine the research topics 2. Design interview
Dec. 6	Working group meeting 4 1. Prepare interview sheet 2. Prepare journals
Dec. 7	Interview trainees Distribute journal format to trainees
Dec. 11	Working group meeting 5 1. Discuss the results of interview 2. Prepare the meetings with TEO and Block Teaching Schools
Dec.13	Working group meeting 6 1. Prepare the meetings with TEO and Block Teaching Schools (develop information sheet, finalize the procedure)
Dec.14	Prepare the necessary documents for the meetings with TEO and Block Teaching Schools
Dec. 17	Orientation at TEOs and Block Teaching Schools in Mhawbi, Khayan and Thanfyin Townships
Dec.19	Working group meeting 7 1. Summarize interviews 2. Summarize Township meetings
Dec. 28	Working group meeting 8 1. Prepare interview 2. Prepare classroom observation
Jan.3	Working group meeting 9 1. Prepare interview 2. Prepare classroom observation
Jan. 9	Prepare the necessary documents for the meetings with TEO and Block Teaching Schools
Jan.10	Working group meeting 10
Jan. 15	First interview at Block Teaching Schools in Mhawbi for supervision
Jan. 17	First interview at Block Teaching Schools in Khayan for supervision
Jan. 18	First interview at Block Teaching Schools in Khayan for supervision

Jan. 22	First interview at Block Teaching Schools in Thanlyin for supervision
Jan. 24	First interview at Block Teaching Schools in Helgu for comparison
Jan. 25	First interview at Block Teaching Schools in Dala for comparison
Jan.28	Working group meeting 11
Jan.30	Working group meeting 12
Feb. 2	Second interview at Block Teaching Schools in Mhawbi for supervision
Feb. 7	Second interview at Block Teaching Schools in Khayan for supervision
Feb. 8	Second interview at Block Teaching Schools in Khayan for supervision
Feb. 14	Second interview at Block Teaching Schools in Thanlyin for supervision
May 27	Working group meeting 13 1. Review the assignment of working group members 2. Discussion on findings of field research
June 11	Working group meeting 14 1. Discussion on findings of field research 2. Formulation of suggestions
June 20	Working group meeting 15 1. Formulation of suggestions
June	Block Teaching Follow up session
July 7-10	Meetings with individual working members for writing articles
July 16	Working group meeting 16 1. Formulation of suggestions
July 18	Working group meeting 17 1. Formulation of suggestions

(5) Reporting

Through the review of the whole process of block teaching, strategies and policy implications to improve the quality of block teaching were discussed. Before summarizing the results into a report the findings and suggestions were discussed among teacher educators and concerned personnel in DEPT. Each working member was responsible for different parts of the research and the results were compiled in a separate report, "Action Research on Block Teaching". The report contains the current practices of block teaching, the results of the experimental activities, procedures of the research, and suggestions for the improvement of block teaching practices. The main findings and suggestions were reported to DEPT in July 2002.

APPENDIX 8-1

List of Component B Working Group Members

Activity 1: Model Lessons for LCA

DEPT	U Tin Than Daw Myint Myint Than Daw Tin Tin Shu	MBESS Advisor Deputy Director of Planning Planning Officer
MERB	Daw Ni Ni San	Assistant Research Officer
TEC academic)	Daw Tin May Win Daw Wai Wai Oo Daw Mu Mu** Daw Kyu Kyu Aye**	Principal Assistant Lecturer (Basic Science: Assistant Lecturer (Geography) Assistant Lecturer (History)
YEC academic) Theory)	U Yang Naing* Daw Yin Mya Daw Khin Sein Win Daw Han Han Thi Daw San Khin Daw Aye Aye Win* Daw Tin Tin Ye Daw Nu Nu Yi Daw Thandar Aung* Daw Tin Tin Win* Daw Khin Myat Sint* Daw Thida Hlaing**	Principal Assistant Lecturer (English: Assistant Lecturer (English) Assistant Lecturer (Educational Theory) Assistant Lecturer (Educational Assistant Lecturer (Educational Psychology) Assistant Lecturer (General Studies) Assistant Lecturer (Geography) Assistant Lecturer (Geography) Assistant Lecturer (History) Assistant Lecturer (Basic Science: academic) Tutor (Physical Education)

* Participated during Phase 2 only

** Participated during Phase 3 only

Activity 2: CCA Guidebook

DEPT	U Tin Than Daw Myint Myint Than Daw Tin Tin Shu	MBESS Advisor Deputy Director of Planning Planning Officer
MERB	Daw Ni Ni San	Assistant Research Officer
TEC academic)	Daw Tin May Win Daw Wai Wai Oo Daw Mu Mu Daw Kyu Kyu Aye	Principal Assistant Lecturer (Basic Science: Assistant Lecturer (Geography) Assistant Lecturer (History)
YEC academic) Theory)	Daw Yin Mya Daw Khin Sein Win Daw Han Han Thi Daw San Khin Daw Tin Tin Ye	Assistant Lecturer (English: Assistant Lecturer (English) Assistant Lecturer (Educational Theory) Assistant Lecturer (Educational Assistant Lecturer (General Studies)

Activity 3: Block Teaching Action Research

DEPT	U Tin Than Daw Myint Myint Than Daw Tin Tin Shu	MBESS Advisor Deputy Director of Planning Planning Officer
MERB	Daw Ni Ni San	Assistant Research Officer
TEC	Daw Tin May Win Daw Wai Wai Oo	Principal Assistant Lecturer (Basic Science: academic)
YEC	Daw Yin Mya Daw Khin Sein Win Daw Han Han Thi Daw Aye Aye Cho Daw Thida Hlaing Daw Khin Myat Sint* Daw Hnin Si*	Assistant Lecturer (English: academic) Assistant Lecturer (English) Assistant Lecturer (Educational Theory) Assistant Lecturer (Educational Psychology) Tutor (Physical Education) Assistant Lecturer (Basic Science: academic) Tutor (Agriculture)

* Participated during Phase 2 only

APPENDIX 8-2

Working Group Meeting Schedule (Component B)

<Phase 2>

Date		Activity 1 Model Lessons at ECs	Activity 2 CCA Guidebook	Activity 3 Block Teaching
Nov. 1	T			
2001				
2	F			
3	S			
4	S			
5	M	Phase 2 Plan Meeting		
6	T			
7	W	Phase 2 Plan Meeting		
8	T			
9	F			
10	S			
11	S			
12	M			
13	T			
14	W			
15	T			
16	F			
17	S			
18	S			
19	M			
20	T			
21	W			
22	T	WG (13:00-16:00) DEPT	WG (13:00-16:00) DEPT	WG (13:00-16:00) DEPT
23	F			
24	S			
25	S			
26	M			
27	T			
28	W			Session for Action Research (14:00-16:30) YEC
29	T			
30	F			
Dec. 1	S			
2	S	Session for Problem Solving and Critical Thinking (9:00-16:00) YEC		
3	M			WG (12:00-14:00) YEC
4	T			WG (12:00-14:00) YEC
5	W			
6	T			WG (15:00-17:00) YEC
7	F			Interview with trainees
8	S			
9	S			
10	M			
11	T	WG (15:00-16:45) YEC		WG (13:00-14:45) YEC
12	W			
13	T			WG (9:00-10:00) WG (14:30-17:00) YEC
14	F			Preparation for Field Research
15	S			
16	S			
17	M			Field Research
18	T			

MBESS Final Report I

19	W			WG (14:00-16:00) YEC
Dec. 20	T			
21	F			
22	S			
23	S			
24	M			
25	T			
26	W			
27	T			
28	F	WG (14:30-16:00) YEC		WG (13:00-14:30) YEC
29	S			
30	S			
31	M			
Jan. 1	T			
2	W	WG (14:30-17:00) YEC		
3	T	WG (15:30-16:30) YEC		WG (14:30-15:30) YEC
4	F			
5	S	Field Survey		
6	S	(Pyay Education College)		
7	M		Field Survey	
8	T		(Primary Schools in	
9	W		Rakhaine State)	
10	T	ML (9:30-11:00) ML (11:00-12:30) ML Review (14:30-16:30)		
11	F	ML (10:00-11:30) ML Review (14:30-16:30)		
12	S			
13	S			
14	M			
15	T	ML (9:30-11:00) ML (11:00-12:30) ML Review (14:30-16:30)		Field Research
16	W	ML (11:00-12:30) ML Review (14:30-16:30)		
17	T			Field Research
18	F			Field Research
19	S			
20	S	Yangon	→ Mandalay	
21	M	Child-Centered Learning Workshop in Mandalay		
22	T			Field Research
23	W	Mandalay	→ Taunggyi	
24	T	Child-Centered Learning Workshop in Taunggyi		Field Research
25	F			Field Research
26	S	Taunggyi	→ Yangon	
27	S			
28	M	ML (9:30-11:00) ML (11:00-12:30) ML (13:45-15:15) ML Review (15:15-17:00)		WG (14:00-16:00) YEC
29	T	ML (9:30-11:00) ML (11:00-12:30) ML (13:45-15:15) ML Review (15:15-17:00)		
30	W			WG (14:00-16:00) YEC

31	T				
Feb. 1	F				
2	S			Field Research	
3	S				
4	M	Child-Centered Learning Workshop in Yangon			
5	T				
6	W	ML (9:30-11:00) ML (11:00-12:30)			
7	T			Field Research	
8	F			Field Research	
9	S				
10	S				
11	M				
12	T				
13	W				
14	T			Field Research	
15	F				
16	S				
17	S				
18	M				
19	T				
20	W				
21	T				
22	F				
23	S				
24	S				
25	M				
26	T				
27	W				
28	T				

<Phase 3>

Date		Activity 1 Model Lessons at ECs	Activity 2 CCA Guidebook	Activity 3 Block Teaching
May 27	M		WG (14:00-15:00) YEC	
28	T			
29	W	WG (15:00-16:30) YEC		WG (14:00-15:00) YEC
30	T	WG (9:00-17:00) YEC		
31	F	WG (9:00-15:00) YEC		
Component A and B Meeting (15:00-17:30)				
Jun. 1	S			
2	S			
3	M			
4	T	WG (10:30-16:00) YEC		
5	W			
6	T	WG (9:00-12:00) YEC		WG (14:00-15:30) YEC
7	F			
8	S			
9	S			
10	M			
11	T	WG (9:00-14:30) YEC		WG (15:00-16:00) YEC
12	W	WG (9:00-12:00) YEC		
13	T			
14	F			
15	S			
16	S			
17	M			
18	T	WG (9:00-12:00) YEC		

19	W		
20	T	WG (9:00-12:00) YEC	WG (14:00-16:00) YEC
21	F		
22	S		
23	S		
24	M	CCA Workshops in Toungoo, Pathein, and Mawlamyine	
25	T		
26	W		
27	T	Feedback Meeting (15:30-17:30)	
28	F		
29	S		
30	S		
Jul. 1	M	CCA Workshops in Pyay, Mandalay, and Taunggyi	
2	T		
3	W	CCA Workshop in Meikthila and Feedback Meeting (13:30-17:30)	
4	T		
5	F		
6	S		
7	S		
8	M	CCA Workshop in Magway and Pakokku	
9	T		
10	W	WG (9:00-13:00) YEC	WG (14:00-16:00) YEC
11	T		
12	F		
13	S		
14	S		
15	M	Feedback Meeting (15:00-17:00)	
16	T	WG (14:00-15:00) YEC	WG (15:00-16:00) YEC
17	W		
18	T		
19	F		
20	S		
21	S		WG (11:00-14:00) YEC
22	M		WG (14:00-16:00) YEC
23	T		
24	W		Presentation to DEPT
25	T	WG (9:00-12:00) YEC	
26	F		
27	S		
28	S		
29	M		
30	T	Technical Transfer Seminar (CCA Workshop in Yangon)	
31	W		
Aug. 1	T	WG (9:00-12:00) YEC	
2	F		

APPENDIX 8-3

Yankin Education College (YEC)
Daily Schedule for First Year (Primary Level) Students
Batch Six (AY 2001-2002):

Semester 1: August 16 to December 8, 2001*

MONDAY

Time	Art and Science	Art Stream	Science Stream
05:00	Arise		
06:00 – 07:00	Physical Education		
07:00 – 08:00		Fine Art	Agriculture
08:00 – 09:30	Bath/Breakfast		
09:30 – 10:15		Teaching of Social Studies	Teaching of Mathematics
10:15 – 11:00		Educational Theory	Teaching of Social Studies
11:00 – 11:45		English Language Teaching	Myanmar Language Teaching
11:45 – 12:30		Myanmar Language	Educational Psychology
12:30 – 13:00	Lunch		
13:00 – 13:45		Teaching of Mathematics	Educational Theory
13:45 – 14:30		Fine Art	Agriculture
14:30 – 15:15		Educational Psychology	Teaching of Basic Science
15:15 – 16:00		Fine Art (optional)	Agriculture (optional)
15:00 – 17:00	Optional hour of English tuition per week	Language Laboratory Session	
17:00 – 18:00	Dinner Girls must be at hostel by 1800		
18:00 – 19:00	Leisure time for boys		
19:00 – 21:00	Study		
21:00 – 22:00	Retire		

* Examinations: December 2-8

Industrial Arts: Boys only

Domestic Science: Girls only

Note: Very similar schedules are set for other days.

APPENDIX 8-4

**EVALUATION FORM
for the session on Problem Solving and Critical Thinking**

Workshop: Problem Solving and Critical Thinking Workshop

Date: November 29 - December 7, 2001

Place: Yankin Education College (YEC)

1. How would you evaluate the value of this workshop?

1	2	3	4	5
little	some	average	good	great
value	value	value	value	value

2. What in the workshop was valuable to you? Please check, as appropriate

Activity	Little value	Some value	Great value
The framework for critical thinking: Evocation, Realization of Meaning, Reflection (ERR)			
Classroom strategies (paired brainstorming, group brainstorming, INSERT, etc.)			
Information and sharing about critical thinking			
"Sea Turtles" article			
"The Sniper"			
Information on teacher questioning			
Micro-teaching experience			
Other (please specify)			

3. How would you rate your competence with respect to each of the following?

Activity	Little competence	Some competence	Very competent
Understand and describe three stages for teaching and learning			
Being able to place various teaching strategies in the appropriate stage of the framework			
Being able to prepare classroom lessons based on the framework using the present curriculum and available materials			
Being able to introduce the various teaching strategies in the classroom			
Understanding of the importance of teacher questioning for promoting critical thinking			
Being able to present a narrative text to a class using the ERR framework			
Understanding of the value of questioning students at various levels (e.g., Bloom's taxonomy)			
Other (please specify)			

4. What topics related to critical thinking and student-centered learning would you like to learn more about in future workshops?

5. Please make any comments on the workshop.

Thank you for taking the time to respond to this questionnaire.

CHAPTER 9

STRENGTHENING TEACHER EDUCATION FOR IMPLEMENTING CCA

9.1 Suggestions for Systemic Changes in the Education Colleges

In 1998, Myanmar initiated the process of curriculum reform in primary education, as well as other reforms specific to teacher education, as part of the Education Promotion Program (Phase I). As a result, teacher education, which is under the purview of the Department of Educational Planning and Training (DEPT), one of four departments¹ formed in 1998 when the Department of Basic Education was reorganized,² has experienced significant changes. Some of the changes include the reintroduction of pre-service teacher education (after a hiatus of 27 years), and the expansion of in-service teacher training for uncertified primary level teachers.³

Both initiatives have had enormous impact on the teacher education colleges, especially related to staff availability and utilization. The shortage of teacher educators to meet current demand, especially in the academic subject areas, has resulted in increased class sizes that negatively affects trainee learning, and poor working conditions for the teacher educators such as additional teaching and other responsibilities, especially for the methodology teachers. Other systemic issues are related to program quality and teacher quality, both linked to sustainability of interventions and special initiatives such as the DEPT-JICA development study on improved access and quality of basic education in Myanmar.

Other reforms affecting teacher education are underway, as part of the *Special Four-Year Plan for Education (2000-2004)*, such as the opening of a new teacher education college in Dawei in Tanintharyi Division (bringing the total number of teacher education colleges in Myanmar to 20), and the planned upgrading of four level II⁴ to level I teacher education colleges.

¹ The four departments are: Department of Educational Planning and Training (DEPT); Department of Basic Education No. (1) (DBE-1), Lower Myanmar; Department of Basic Education No. (2) (DBE-2), Upper Myanmar; and the Department of Basic Education No. (3) (DBE-3), Yangon City.

² Since 1998, the DEPT has been implementing Education Promotion Programs (Phase I in 1998, Phase II in 1999, and Phase III in 2000), the major outcomes of a number of nationwide seminars conducted in order to improve access and the quality of basic education.

³ A teaching certificate for the primary level (KG-4) is awarded either by completing a one-year teacher training program (pre-service) for those between 16 and 25 years of age and who have passed the 10th standard matriculation examination, or, for those already teaching, completing a correspondence course including a five-week “face-to-face” training program (in-service education) at one of the education colleges.

⁴ Level II teacher education colleges to be upgraded to level I include Taunggyi Education College, Meiktila Education College, Monywa Education College, and Magwe Education College. Level I education colleges award both a certificate in education (KG-4) and a diploma in teacher education (grades 5-8). Level II teacher education colleges offer only the first year course of study, i.e., a certificate in education.

One of the five objectives of the MOE's Special Four-Year Plan is to "create an education system that is on a par with that of international standards and keeping abreast with that of developed countries in South East Asia." International practice brings with it a solid research base on how students learn and the conditions necessary for such learning to take place. In this chapter, Myanmar's stated goal to create an education system on a par with international standards provides the context for suggestions to improve teacher education. The suggestions, which address systemic reform, are presented under two broad headings: 1) program quality and 2) teacher quality. The overall framework for the discussion is improved access and quality of education, especially with reference to efforts to implement child-centered and learner-centered education.

9.1.1 Program Quality and Teacher Education: Some Systemic Issues

The issues discussed in this section address program quality and include a) the program's sequence, the program's length, and medium of instruction in the academic courses; b) the trainee's schedule; c) monitoring and supervision of block teaching; and d) external efficiency of the primary teacher training system.

(1) Program sequence, length and medium of instruction

Three major issues discussed below include the length of the pre-service training for primary level, the sequence of the program of study, and the medium of instruction for the academic courses.

a. Program sequence

In 1998, the education colleges were given very little time to implement a new pre-service program. Until then, the education colleges provided in-service education only. As a result, it is understandable why the pre-service program of study was designed the way it is.

The academic year consists of two semesters (each four months), plus block teaching (2 months), and vacation (2 months). The sequence is as follows:

Semester 1: Methodology courses, including educational theory and educational psychology

Block teaching

Semester 2: Academic (content) courses

Teacher education in Myanmar places more emphasis on teaching methodology than on concept development. Since the academic courses are taught after methodology courses, there is no opportunity to link concept development and methodology prior to block teaching. Moreover, the methodology courses are aligned with the topics of the textbooks used in the state primary schools, and without additional resource material on the specific topic areas.

The sequence of the program of study is, by international standards, backward. In other countries, content is taught first (or in some cases in tandem with the methods courses). Block teaching, known as student teaching or student internship, is the culmination of the academic

program in at least two ways. First, it is at the end of the program (and in some cases an additional year is devoted to it) and, second, it is one of the practical experiences of the aspiring teacher, not the only one. Field or practical experiences should be built into every course the student takes.

The situation in the education colleges requires the trainee to teach before he or she has had opportunity to learn the content of the respective subjects. The quality of primary education in Myanmar is negatively affected when you have a situation, as currently exists, where the trainees are unprepared to implement the curriculum. This is especially applicable to using a child-centered approach, the success of which depends, to no small degree, on the teacher's understanding of child development and knowledge of the respective subjects.

b. Length of the program

To become a primary teacher (KG-4) in Myanmar requires two semesters of study, plus block teaching; to become a middle school teacher takes two years; and to become a secondary school teacher takes four years (two years at the education college, and two years at the Institute of Education, either in Sagaing or in Yangon). Primary teachers not only receive less pay than at the other two levels but receive much less education, as well.

In industrialized countries, a minimum of four years is required to become a primary, middle, or secondary school teacher. Differentiation is based on subjects studied, not on the number of years it takes to become a teacher. Almost all countries in the world are now engaged in education reform and upgrading the qualifications of its teachers, especially primary teachers, is foremost on the reform agenda. If Myanmar desires to have an educational system on a par with international standards, then it must redesign its teacher training program to make it consistent with international practice.

At minimum, and for the short-term, the training to become a primary level teacher should be increased to two years, the same as that required for middle school teachers. In the longer term, the system should be redesigned so that primary, middle, and secondary levels are on an equal basis, both in terms of training provided and in terms of salary base.

c. Medium of instruction for the academic courses

The academic courses are taught in English. The methodology courses are taught in Myanmar. There are problems on two levels with this situation. First, facility with the English language is limited, both for the trainees and for the teachers (verified through numerous site visits). Thus, knowledge of the specific subject areas is negatively affected by the fact that English is the medium of instruction. Second, the academic subject area teachers, who themselves must struggle with teaching in English, tend to follow the textbook without deviation. This situation makes it very difficult to implement learner-centered education in the education colleges, at least with respect to the academic subjects.

As a first step, it is suggested that the courses in history, geography, and economics be taught

in the Myanmar language. It may be less problematic for science courses to be taught in English, but that should depend on an assessment of the situation in each of the education colleges. It would be advantageous to allow education colleges to choose which medium they preferred to use for their academic courses, at the very least and in the short-term.

(2) Trainees' schedule

The structure of the day for the pre-service trainee does not allow for flexibility or for independent study or research activities. Program objectives for learner-centered education include conducting research, developing skills in working with the community, especially parents, and being competent and effective teachers, with a strong knowledge of subject areas, as well as skilled in methodologies in how to teach.

It is recommended that flexibility is introduced into the trainee's schedule to allow time and opportunity for independent study or research, and other projects specifically related to the promotion of child-centered education. This may include field-based experiences, including observation of students in classes (e.g., in the practicing school), working one-to-one with a student or a small group of students, observing other educational institutions, visiting resource centers such as museums or libraries. Currently, this is not feasible because of the trainees' schedule, which is programmed from early in the morning until late afternoon.

It is suggested that a planning committee or task force be formed to generate options for changing the trainees' schedule to improve learning outcomes and broaden the trainee's overall development. As a first step, it is recommended that the members of the task force experience, first-hand, the current schedule as a way of appreciating the necessity for change. Members of the JICA study team did this, and it was most helpful in understanding the current situation.

(3) Monitoring and supervision of block teaching⁵

The education colleges do not participate in the selection of schools for block teaching, nor in the monitoring and supervision of the trainees. The schools to which the trainees are appointed are selected by a committee which includes the township education officer (TEO), the assistant township education officer (ATEO), the primary headmaster/headmistress, and, if the primary school is located in a middle school, the headmaster/headmistress of the high school and middle school.

The system needs to be changed so provision is made for sufficient orientation for the trainees before block teaching; during block teaching, with close monitoring and supervision that includes the teacher educators, in collaboration with the cooperating teacher, TEO or ATEO, and headmaster/headmistress; and after block teaching, for follow-up and evaluation. The ultimate responsibility for the management and supervision of block teaching should be in the hands of the education colleges. These are minimum requirements.

⁵ For more detail discussion, please refer to the separate volume, "Action Research on Block Teaching – Review of Current Practice and Some Suggestions."

Since trainees have little, if any, opportunity for field-based experiences before block teaching, their base of experience in working with children is limited. Teacher educators, from whom they have learned the newer methodologies, are not involved in the monitoring and supervision of the trainees. In many cases, the headmaster/headmistress, the cooperating teacher, the ATEO have not been trained in the newer methodologies. The trainees' attempts, therefore, to implement changes in teaching are often met with resistance. In those cases where the respective head masters/headmistresses and ATEOs have received training in the newer methodologies, such as through the UNDP/UNESCO project, the situation is improved.

It is critical that TEOs, headmasters/headmistresses, and cooperating teachers be provided with training in CCA, and in monitoring and supervision skills. The situation needs to change so that education colleges have a role to play in monitoring and supervision of their trainees, in the selection of the sites, and, ideally, in selecting the cooperating teacher. Without their involvement and cooperation, it is hard to see how change can occur to any significant degree.

(4) External efficiency of pre-service teacher education

As mentioned above, after a hiatus of 27 years, pre-service education was reintroduced in Myanmar, with the goal of increasing the number of trained primary teachers, related to the significant teacher shortage that exists at the primary level, especially in the rural areas. The "pool" of trained primary teachers, since the first batch only entered in 1998-1999AY, is small, relative to need. However, the most important question is how many of those who are trained at the primary level actually choose to work as primary teachers. What is the external efficiency of the teacher education system? It is a question that warrants further inquiry.

A couple of examples: Of the 2,381 graduates of the pre-service certificate course in 1998-1999AY, less than 10 percent (9.95 percent) chose to work as primary teachers. Most remained to complete the second level course at the respective teacher education college and, of those, only 62 percent chose to work as primary teachers. It is not known how many of the 62 percent remain as primary teachers. In an informal survey of the first-year trainees (all male) at the Yankin Education College in late 2001, not one trainee indicated a desire to teach at the primary level. Almost without exception, the choice was to teach at the secondary level.

There are cogent reasons why a trainee may choose to continue his or her education to become a middle school or high school teacher in Myanmar. One of those reasons is related to the differential pay scale, discussed in the section on teacher quality. Primary teachers are paid the least, yet, have the most responsibility in terms of the future of Myanmar's children and their quality of life and for the future of Myanmar in the development of its human resources.

(5) Resource materials and textbooks to support CCA

Constraints to the quality of teacher education at the primary level, with respect to textbooks, include the following:

- Absence of textbooks in three subject areas to support curriculum revisions of 1998, specifically with respect to general studies (KG-2) and the social studies text, which does not include the life skills and civics components of the curriculum;

- Use of the primary level textbooks (KG-4) by the trainees for learning about the specific subjects;
- Trainees and teacher educators use the same textbook in the methodology courses.
- Textbooks only in English for the academic courses (currently taught in semester II), which means that comprehension of the material is dependent on the respective teacher educator and trainee's knowledge of English, a significant problem.

Each of these constraints, which must be addressed, has direct implications to the improvement of primary teacher education. In the context of textbooks and resource materials to promote CCA, it is axiomatic that unless textbooks are available that incorporate CCA and that help the learner (whether the child in the primary classroom or the trainee in the education college) see the interrelationships between and among concepts and experiences. We know that individuals learn best when they are actively involved and when the content and context of learning are meaningful and relevant. Textbooks and resources materials need to be aligned with that concept if systemic reform is to take place.

9.1.2 Teacher Quality and Teacher Education: Some Systemic Issues

Issues addressed in this section target teacher quality and include a) low status of primary level teaching and the pay scale; b) the effects of recent policy changes on teacher subject area knowledge of science; c) ongoing professional development for teacher educators; and d) training in learner-centered approaches.

(1) Low status of primary level teaching and the pay scale

The MOE and UNDP/UNESCO Education Sector Study (ESS), conducted in the early 1990s, succinctly summarizes the situation with respect to the promotion system and primary level teaching:

The greatest impediment to motivating primary school teachers may be the career path for teachers in Myanmar's basic education system. Career prospects are limited not only within each cycle of basic education but also across the successive cycles. The only possible career promotion within the primary systems is from a primary assistant teacher (PAT) to headmaster/headmistress or to a junior assistant teacher (JAT) with responsibility for primary teaching.

Primary teachers not only get lower pay than teachers do at other levels, but also they receive less training, as well. Further, there are no financial incentives to improve teaching skills. Minimal increases are granted annually for seniority, but these are unrelated to the teacher's performance or student achievement.

Any first year student can continue, without being specifically selected, to continue to the second year course. In effect, the primary level teachers are streamed to middle school teaching, which pays more and has higher status. The "pool" of certified primary teachers is diminished, given this situation, contributing to the severe shortage of teachers in the rural areas.

In Myanmar, if a primary teacher were to obtain a bachelor's degree, that person would not be appointed at the primary level. For a young person preparing to enter the teaching profession, options for career growth within the level (i.e. primary, middle) do not exist. The only way one can be promoted is to move out of that particular level and move onto the next level.

However, the change initiated by the MOE for the 2001-2002AY appointed teachers is a step in the right direction to address the shortage of primary level teachers. After completion of the second year course, the trainee is awarded a diploma in teacher education and is appointed either as a primary teacher or as a junior teacher, with "primary teaching duty."⁶ The quality of teaching may improve in these situations, because the trainee has had an extra year of teacher preparation, but the remuneration does not.

Improving the status of primary teaching requires structural change in the system so that remuneration is not based on level of teaching (that is, primary, middle, or secondary), but on a) years of experience and b) educational level. This change would position Myanmar to be on a par with international practices with respect to this issue. Further, it is posited that enhancing the professionalism of primary level teaching would have the effect of increasing motivation and improving teacher attitude, both critical to implementing child-centered education.

(2) Selection of trainees for admission to education colleges

Scores on the matriculation examination determine entrance to the education colleges. Boys tend to score lower than girls do, on average. There is an MOE initiative to attract more males as primary and middle school teachers.⁷ Selection criteria for admission to the education colleges need to be raised to improve the quality of teaching at the primary level. Teachers at the primary level should be outstanding students and only they should be selected for admission, regardless of gender.

(3) Effects of recent policy changes on teacher subject area knowledge of science

Changes to the primary level curriculum in 1998 have direct consequences for teacher education. Basic science was introduced as part of the primary education curriculum (grades 3 and 4). Because of these changes, academic and methodology teachers are now expected to prepare trainees in the new curriculum that includes basic science, general studies (Kg-2), and social studies (grades 3 and 4). In the following paragraphs policy changes are discussed with respect to changes in the high school curriculum and teacher education curriculum that impact on the quality of the teaching of science in primary schools.

Students (through 2000-2001AY) were "streamed" into either the arts or the science curriculum, based on their 10th grade matriculation examination results. Students with the highest scores in physics, chemistry, and biology were streamed into the science curriculum. This means that teacher trainees streamed into the arts curriculum were not eligible to take courses in the science

⁶ MOE, Thirty-Year Plan, Basic Education Sector (2001/2002 - 2030-2031), November 2001.

⁷ Boys can attend only Yankin Education College (lower Myanmar) and Mandalay Education College (upper Myanmar).

department. Thus, approximately 50 percent of the trainees did not have access to academic courses in the science area. The only training they received was through the semester 1 course in teaching methodology of science.

Streaming into either arts or science is no longer practiced. The current batch of trainees has the option of choosing two subjects from the list of six (economics, history, chemistry, physics, biology, history, and geography), plus the required subjects (English, math, Myanmar language).

Beginning in 2000-2001AY, students exiting grade 8 have the option of enrolling in one of seven combinations of courses. Mathematics, English, and Myanmar language are compulsory subjects. It can be seen that three of the seven streams⁸ do not include any course in science (geography, history, economics; geography, history, (optional) Myanmar language; history, economics, (optional) Myanmar language).

The cumulative effect of this change is that some trainees may not have taken a science course in high school, and may choose not to take a science course at the education college since science is not a required course. Thus, it is conceivable, and not unlikely, that a student could earn a certificate or a diploma in teacher education without having taken any science since 8th grade. Subject matter knowledge required to teach basic science, especially in light of implementing the child-centered approach, is not assured. Unless this situation is addressed, and coursework in science is added as a requirement at the teacher education colleges, the quality of primary education, including child-centered education, will suffer.

(4) Ongoing professional development for teacher educators

The MOE has given some refresher courses or short-term training on the new education reform programs. However, there is no system in place for ongoing professional development for teacher educators. The need for such a system is predicated on the fact that first, teacher educators have not had any systematic training to improve their own skills since 1993, and that was done through the UNDP/UNESCO project, and second, opportunity for what is referred to in other countries as "continuing education" are extremely limited, and, with few exceptions, not existent in Myanmar.

The methodology teachers are especially disadvantaged in this regard. After a methodology teacher has obtained a B.Ed. degree, he or she must sit for an entrance exam to enter a M.Ed. program (an M.A. program is not an option). Spaces are extremely limited and competition is stiff. For example, in one year, in the mid-1980s, only five teacher educators were selected in all of Myanmar for entrance to the M.Ed. program.

Teachers of academic subjects must hold an M.A. degree to be appointed at an education college. A recent policy allows for a limited number of academic teachers to apply for a Ph.D.

⁸ The streams include (a) physics, chemistry, biology; (b) physics, chemistry, history; (c) geography, history, economics; (d) physics, chemistry, economics; (e) physics, chemistry, optional Myanmar language; (f) geography, history, optional Myanmar language; (g) economics, history, optional Myanmar language.

program. The effects of these policies for methodology teachers are wide-ranging and include decreased motivation for self-improvement, and virtually no opportunity to increase subject area expertise (methodology teachers need to have a thorough grounding in the underlying concepts, as well). There is a widening gap between methodology and academic teachers at the respective teacher education colleges.

Methodology teachers and academic subject teachers should be working in teams, or at the very least, in tandem, each with specific but overlapping responsibility for preparing the trainees to become primary teachers. It is suggested that a system be developed for ongoing professional development for teacher educators and that policies to improve opportunity for advanced degrees, and continuing professional education, especially for the methodology teachers, be put in place.

(5) Training in learner-centered approaches

The teacher educators themselves should be role models for the student-centered, activity-based approaches that are being promoted. The change from rote learning, which tends to characterize Myanmar teaching-learning processes, to more interactive approaches that promote critical thinking and problem solving, requires specific interventions and support for the teacher educators themselves.

To address this situation, the JICA study team (Component B) developed experiential training on the use of interactive strategies to design and deliver instruction. The training (August 2001) consisted of approximately 15 hours over five days, devoted to helping teacher educators and others understand and integrate the three phases of the instructional process. Videotapes⁹ were made of the lessons that were prepared and delivered as part of the training. In addition, teacher educators from 16 teacher education colleges participated in two days of training on the child-centered approach, and one of those days was devoted to learning more about the instructional design process (July 2002). The workshops are a good beginning. However, additional training is needed by the teacher educators who would, in the future, be part of a resource team for extension purposes.

In the short-term, professional development of teacher educators, including the newly appointed instructors who do not have teaching experience, and other key actors such as headmasters/headmistresses and township level officials is critical. The desire for training and willingness of many teacher educators to work toward improving teaching and learning practices in the education colleges provides a strong foundation for future initiatives.

Additional suggestions include study tours (exposure visits) to other schools, education colleges, educational institutions, including rural schools and “few student” schools (those with less than 50 students); access to information available internationally (Internet, videos, books); and journals for teacher educators to share their practical experiences.

⁹ Each videotaped lesson is 90 minutes. An 11-minuted “summary” video also was made by splicing excerpts from the original tapes. Each of the five presentations in the 11-minute video utilizes the three stages of the instructional design process.

(6) Physical improvement of the education colleges

It has been pointed out that the learner-centered approach (LCA) in the education colleges should be emphasized in order to provide the trainees with a model of the child-centered approach (CCA). Currently, the limitation of physical conditions of the education colleges inhibits teacher educators from implementing more learner-centered lessons, along with other factors such as the rigid trainees' daily schedule and an overloaded curriculum.

a. Buildings and classrooms

Many basic education schools, particularly in rural areas, are facing teacher shortages. The shortage of teachers is and will continue to be quite acute, when the number of the trainees¹⁰ is compared with the required number of teachers that DEPT estimated¹¹. The MOE has made continuous efforts to expand access to teacher education by opening one new education college in Dawei, Tanintharyi Division in 2002, and upgrading four Level II Education Colleges to Level I. However, even with this expansion, it is expected that many primary schools will face teacher shortages. It is still not clear yet how these shortages will be addressed, but it is likely that admission of trainees to the education colleges will continue to increase for the next 10 years.

Currently, the lack of classroom space is one of the major problems in the education colleges,¹² due primarily to the demands of in-service teacher training and the increased number of trainees in each batch admitted to the education colleges. Even though it is planned, that by 2003-2004AY, in-service teacher training for uncertified teachers will no longer be needed, it can be anticipated that education colleges will continue to face a serious shortage of classrooms for the pre-service program.

Due to the lack of classrooms, the teaching sections tend to be very large. This contributes to a teaching style in the education colleges that is mostly lecture style. When demonstration is used as a teaching technique, typically the teacher educator demonstrates to a large audience of trainees on the stage of an auditorium or at the front of a lecture hall. Opportunity for feedback and discussion, as a consequence, tend to be very limited. Given these teaching conditions, emphasis on memorization and learning by rote, which should be replaced by the learner-oriented approach and teaching style, prevail in the classes, with few exceptions. The absence of extra classroom space also makes it very difficult to conduct group work or other activities. A review of classroom availability, based on need and teacher demand projections, is urgently needed.

b. Facilities and equipment

¹⁰ In 2000-2001AY, a total of 4,160 trainees were trained in the primary school teacher training.

¹¹ For more details, please refer **Table 7 of ANNEX 2: Teacher Demand Projection**.

¹² For example, currently Yankin Education College has 14 sections for the first year and second year course, each of which consists of more than 60 trainees. There are no extra rooms available and in-service training has been conducted in a large hall.

Most education colleges are have basic facilities such as a library, a science laboratory, a language laboratory and a multi-media classroom, but they are poorly equipped and the trainees' access to such facilities minimal.¹³

Among such facilities, priority should be give to the improvement of **science laboratories** and **libraries**. Most of the trainees have had little or no prior experiences in using science experiment in a laboratory; nevertheless, but they are expected to conduct science experiments when they become teachers. The education colleges should provide them, at the very least, with the opportunity to conduct experiments that are in required in the primary school textbooks. In one education college, the study team observed a science laboratory where a large number of boxes of laboratory equipment and chemicals were unopened. In improving a science laboratory, a careful examination needs to be made of required items, and, equally important, training the teacher educators, or at least a guidebook, on how to use the equipment and chemicals in science experiments.

The libraries, though they exist, are not utilized effectively. They contain a minimum number of books, mostly old and outdated. Moreover, it is not possible for the education colleges to purchase new books with the current DEPT budget allocation.¹⁴ Most libraries lack publications of educational journals, or if they do they are not recent, and reference books for the recently introduced academic subjects, as a result to the reintroduction of pre-service teacher training in 1998. There are no separate reference books or guidebooks for trainees to study professional courses such as educational psychology and educational theory.

The lack of reference books is a serious limitation in the education colleges because both teacher educators and trainees are unable to deepen subject matter knowledge, and trainees are unable to engage in individual research or project-type assignment without information, in addition to that provided in the textbooks. A serious, and additional, quality issue is the fact that the textbooks used in the state primary schools are used as the reference books (or textbooks) by the teacher educators for the methodology courses.

c. Instructional materials

The lack of teaching aids is a major obstacle in effective teaching-learning process of education colleges. Multi-media equipment can be an effective tool when lessons need to be conducted in a large class. The use of multimedia in the classrooms to improve teaching and learning has been promoted in Myanmar's education reform initiatives since 1998, but it is still limited to just showing the trainees "the existence of the teaching aids," partly due to the absence of a consistent supply of electricity, the shortage of materials such as videotapes, and the lack of knowledge on how to use the teaching aids.

¹³ For example, trainees have virtually no time to visit a library because their free time is only 08:00-08:30 and 18:30-19:00 and the library usually closes at 17:00. The media room is always locked and trainees are not allowed to use freely use the equipment. The science laboratory is rarely used in the courses.

¹⁴ Ks 2,000 or Ks 4,000 per year are provided for maintenance by DEPT.

In addition to the teaching aids used in the education college classes, those teaching aids used in the basic education schools, particularly for CCA, should be available to the trainees. Even though a number of methodology departments in the education colleges exhibit the work of their trainees from the previous academic year, these are mostly limited to charts and models. Some of them are made very well, but the trainees need to be given opportunity to observe various teaching and learning materials, as an aid to better understanding the effectiveness of the teaching aids and the levels at which they could be used in the classroom.

9.2 Suggestions for Implementing CCA in the Training Courses at the Education Colleges

The purpose of this section is to share some ways the courses at the education colleges could be improved and made more "learner-friendly." The premise is that if trainees are taught using a "learner-centered approach," they will be more likely to implement the child-centered approach when they themselves become primary teachers. In this context, the teacher educators should be the "role models" for CCA.

The other premise is that teacher preparation standards, incorporating core knowledge, abilities, values, and attitudes, are necessary for teacher educators to become knowledgeable and competent professionals of CCA.

Suggestions are proffered in two areas: 1) implementation of learner centered approaches in the education colleges, and 2) building awareness and deepening knowledge of child-centered approaches (CCA) in the education colleges.

9.2.1 Implementation of Learner-Centered Approaches (LCA) in the Education Colleges

The issues discussed in the context of implementing the learner-centered approach (LCA) in the trainees' classes include a) getting to know the trainees and establishing a climate of trust in the classroom; b) giving constructive feedback; c) improving the quality of assignments; d) using active learning in the teaching-learning process, based on recent "brain research"; e) designing courses using three-stage framework; and f) linking teacher education with classroom practice.

(1) Get to know the trainees and establish a climate of trust in the classroom

One of the premises of child-centered education is to get to know the individual child. Likewise, the teacher educator should make a concerted effort to learn about each of the trainees-- their interests, learning styles, and prior knowledge about a topic or subject area.

The trainees are young adults and bring to the classroom their own set of beliefs about children, teaching, and about themselves. Some are very idealistic and expect to make a contribution to Myanmar's future by teaching. Others are more pragmatic and may be studying to be a teacher because of limited options.

This can be challenging because the classes at the education colleges tend to be very large. Frequently sections are combined due to the shortage of teacher educators or space. The teacher educators themselves often have multiple duties and a number of responsibilities in addition to teaching.

There are many different ways to learn more about the trainees. Asking them about their interests or hobbies or special skill is one way. Having each trainee "free write" for ten minutes about why they want to be teachers is one example of a way to "break the ice" with trainees at

the beginning of the semester, and a way to learn more about each of them. Some teacher educators in other countries use visual means (student art) to learn more about each student.

Teacher educators themselves can share information about what their worst fears were about teaching and how they have changed over time is another way. The underlying principle is that the teacher educator should create a classroom environment that where it is "safe" to share information about oneself and what one thinks. Learning cannot occur without a foundation of trust, and establishing and maintaining this trust is one of the teacher educator's primary goals.

(2) Give constructive feedback to trainees¹⁵

Constructive feedback is an important step in building a trusting, honest, and caring relationship with the trainee. As stated elsewhere in this chapter, learning cannot take place without a trusting relationship.

One of the most difficult but also most important aspects of working closely with another person is giving honest, useful information about his or her performance. Feedback on performance is very important if the trainee is to know what he or she is doing well or not doing well.

The purpose of the suggestions in this section is to offer some guidelines to teacher educators so that trainees can experience constructive feedback and understand its importance in communicating with their peers, with children, parents, and others. There is ample opportunity to implement these suggestions in the education colleges. They are especially relevant to microteaching and block teaching.

- Determine in advance how, when, and about what feedback is to be given and received. This will avoid misunderstanding about what should be happening and when it should be happening.
- Try to start with description and interpretations, rather than evaluation. Descriptions are limited to what was said and done. Descriptions are neutral.
- When giving feedback, try to concentrate on behaviors that the trainee can do something about. This avoids having the trainee become discouraged and disheartened.
- Try to be specific rather than general in the comments. For example, to be told that one is 'dominating' is not as useful as being told that, "In the discussion that just took place, you did not appear to be listening to what others were saying."
- Try to focus on sharing information before giving advice. Advice often is not "heard." It may be much more helpful to ask the trainee what he or she had learned from the experience. Offering to try solving a problem together is often helpful.

¹⁵ Based on the "Guide to the Elementary Internship 2000-01," Department of Teacher Education, Michigan State University, East Lansing, Michigan.

- Feedback should be given at an appropriate time and at the earliest opportunity after the event (e.g., microteaching).
- Think about how much information the trainee can tolerate or use. Watch for non-verbal clues (body language such as gestures, eye contact) to help gauge your reaction.
- Confirm the trainee's understanding of what you have said. What is "heard" is often not what was intended.
- Consider the effects and possible consequences of the feedback. Ask the trainee, "How did it feel to be told that? In what ways did you find the feedback useful, or not useful?"

Constructive feedback is closely linked with questions the teacher educator asks the trainee.

- "Why" questions tend to be interpreted as confrontational and may cause the hearer to become defensive. This is counterproductive in a learning situation.
- It is best not to use a "why" question such as "Why did you interrupt me in front of the class?" Use some other question probe that is more effective such as this:
- "I noticed that you (describe something that happened). Could you help me understand how you decided to do that right then?"
- "I thought it was interesting when you (describe what you observed). Can you help me understand how you thought to do that?"
- "I noticed that you did (describe what you saw). Help me to understand why you did that?"

The underlying principle is this: Describe something specifically and in neutral terms. Then, ask to be taught ("help me understand").

(3) Improve the quality of assignments in in-service teacher training

To effectively utilize the short period of in-service training (correspondence course), the quality of the assignments should be improved. Currently, these assignments require that the trainees preview the textbooks, prior to the face-to-face program. The task is not challenging since most of the assignments can be completed simply following what is written in the textbooks. Little feedback is provided. Taking advantage of the fact that correspondence trainees come from different states/divisions, a variety of information from different regions can be assembled by the respective trainees and shared. The time schedule needs to allow for group and project work, in addition to completion of individual research projects.

(4) Use active learning: "Brain research" and the teaching-learning process

Active learning is necessary because we now know, based on brain research over the past decade,¹⁶ adults cannot focus for more than 15 or 20 minutes (and some research indicates the limit is 10 minutes). The adult's brain needs time for both focusing and processing the new

¹⁶ By using imaging techniques such as magnetic resonance imaging (MRI), emission tomography (PET), and computed tomography (CT or CAT) researchers study the structure and function of the brain.

information, and the brain needs time to make the connections (to form "neural networks") that lead to long-term memory.

Adults and children of different ages can focus on something for different amounts of time. Children of different ages can focus for different amounts of time. Research indicates that most children can focus for the number of minutes equal to their age plus two. A 6-year-old, therefore, can focus for only about eight minutes. After this amount of time, the brain of the child, just as the brain of the adult, needs some time to process the information and to form the neural networks leading to long-term memory (Jensen, 1995; Sprenger, 1999).

This research has direct implications for teacher educators (and for all teachers). After a lecture (or "mini-lecture") of approximately 15 minutes, the teacher educator should stop and allow for some movement or activity to redirect the trainee's attention so that processing can take place. This activity may be as simple as using a technique such as "think-pair-share" or asking the trainee to write down a summary statement of what has been presented. It is now known that the brain is a "living, unique, ever-changing organism that grows and reshapes itself in response to challenge, with elements that wither if not used".¹⁷

Based on the "constructivist model," it is now known that learning is essentially active:

"A person learning something new brings to that experience all his or her previous knowledge and current mental patterns. Each new fact or experience is assimilated into a living web of understanding that already exists in that person's mind. As a result, learning is neither passive nor simply objective."¹⁸

When presenting new material, the teacher educator's first task is to get the trainee's attention, to activate prior knowledge, and to motivate the trainee to focus. How does the teacher keep the student's attention and keep the trainee focused on the task at hand (e.g., reading a text, listening to a lecture, watching a demonstration)? Without the student's active engagement in the task, learning and comprehension does not take place.

(5) Design courses using the ERR framework

Some teacher educators have received training in a framework for instructional design as part of the DEPT-JICA project. These include a) evoking interest, determining prior knowledge, setting a purpose for learning (evocation); b) sustaining interest and involvement with learning activity (realization of meaning); and c) consolidating new learning and taking "ownership" for in-depth and long-term learning (reflection).

Specific details on using the ERR instructional framework are included in a separate document, the teachers' guidebook, "Improving Lessons for Active Learning in Education Colleges."

¹⁷ Abbott, J., & Ryan, T. (1999)

¹⁸ *ibid.* p. 67

(6) Link teacher education with classroom practice

Myanmar's education history includes examples of teacher educators surveying teaching methods used in primary and middle schools in order to develop new and practical teaching methods and techniques for teacher training. That practice should be reintroduced. Establishing links with primary and middle schools would serve to improve the relevance of what is taught in the education colleges and improve the quality of teacher education. Action research is a useful tool to assist trainees to look at the complexities of teaching and learning. This requires frequent contacts with collaborating primary schools, or nearby communities.

9.2.2. Building Awareness and Deepening Knowledge of CCA in the Education Colleges

As mentioned in the first part of this chapter, an ongoing system of professional development should be put in place if quality improvement is to take place in the education colleges. With respect to preparing trainees to teach using CCA, it is axiomatic that the teacher education themselves would receive training in CCA.

(1) Establishing a program of study on CCA in the education colleges

The broad guidelines of an initial teacher preparation program are outlined below. Courses and/or experiences to fulfill each of the guidelines would need to be developed.¹⁹ Selected competencies for each of the guidelines are given below. They are examples of competencies that professionals should demonstrate. The competencies are not comprehensive, but are presented for illustrative purposes only.

Child development and learning

- Use knowledge of how children develop and learn to provide opportunities that support the physical, social, emotional, language, cognitive, and aesthetic development of young children.
- Use knowledge of how young children differ in their development and approaches to learning to support the development and learning of individual children.

Curriculum development and implementation

- Plan and implement developmentally appropriate curriculum and instructional practices based on knowledge of individual children, the community, and curriculum goals and content.
- Use individual and group guidance and problem-solving techniques to develop positive and supportive relationships with children, to encourage positive social interaction among children, to promote positive strategies of conflict resolution, and to develop personal self-control, self-motivation, and self-esteem.

¹⁹ Based on National Council for the Accreditation of Teacher Education (NCATE) program standards. The NCATE is located in Washington, D.C. (USA).

Family and community relationships

- Establish and maintain positive, collaborative relationships with families.
- Communicate effectively with other professionals concerned with children and with agencies in the larger community to support children's development, learning, and well being.

Assessment and evaluation

- Use informal and formal assessment strategies to plan and individualize curriculum and teaching practices.
- Observe, record, and assess young children's development and learning and engage children in self-assessment for the purpose of planning appropriate programs, environments, and interactions, and adapting for individual differences.

Professionalism

- Reflect on their practices, articulate a philosophy and rationale for decisions, continually self-assess and evaluate the effects of their choices and actions on other (young children, parents, and other professionals) as a basis for program planning and modification, and continuing professional development.
- Establish and maintain positive, collaborative relationships with colleagues, other professionals and families, and work effectively as a member of a professional team.

Field experiences

- Demonstrate ability to work effectively (at least 300 clock hours) in student teaching and/or practicum experiences in at least two different settings, serving children of two different age groups.
- Analyze and evaluate field experience, including supervised experience in working with parents, and supervised experience in working with interdisciplinary teams of professionals.

(2) CCA in the Myanmar context: multiage and multi-grade teaching

An issue that has arisen rather often is how to implement CCA in rural schools. Is it feasible? Conditions in many rural schools (e.g., lack of space, inappropriate furniture, lack of partitions between classes (high noise level), large classes with underage and overage children, insufficient teaching staff) make it difficult to implement child-centered approaches. Teacher education colleges need to prepare their trainees for the realities of rural schools, the places where many of them will be doing their block teaching.²⁰

However, unless concerted effort is made to implement CCA in rural schools, there will be a widening gap in access to quality education between rural and urban schools. This statement does not imply that CCA, per se, connotes quality. Extensive teacher training and ongoing support to the teachers (coaching/mentoring) are required for that to occur. The development of

²⁰ Approximately 73.4 percent of the Myanmar's population live in rural areas (Tin Tin Shu, December 2001).

competencies in multiage and multi-grade teaching, and classroom management skills, is critical in the Myanmar context.

(3) Sustainability of program effects

Ongoing support to teachers is very important. Several studies²¹ indicated that the level of classroom application was only about five percent, even after high-quality training that integrated theory and demonstration. Application increased somewhat if time was included for practice and nonjudgmental feedback. But, when the training design included ongoing support (coaching), the level of application increased to 90 percent.²² Clearly, sustainability of program inputs (i.e., training) requires that ongoing support be built into the project design.

²¹ Joyce and Showers (1995)

²² Costa, A. and R. Garmston (2002)

