

Delivering Remedial Support Services to Primary School Children

Developed by:

KAMPUCHEAN ACTION FOR PRIMARY EDUCATION

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Table of Contents

1.	INTRODUCTION 1.1 Overview 1.2 Purpose and Content of This Manual 1.3 Intended Applications of Remedial Instruction in Cambodia 1.4 Time Frame for the Course on Remedial Instruction	1
2.	EXPLANATION ABOUT HOW TO USE THIS MANUAL	4
3.	SESSION PLANS FOR THE TRAINER	5
	3.1: General Concepts and Principles for Doing Remediation Session 1: What is Remedial Teaching? Session 2: Ensuring Balance in Remedial Instruction Session 3: Identifying Areas of Successful Learning Session 4: Basic Techniques in Remedial Teaching Session 5: Reinforcement Exercise: Identifying Common Remedial Techniques in a Practical Setting	6
	3.2: Recognizing Factors that Cause Children to Experience Difficulties in Learning and Teacher Sensitization Session 1: Factors that Affect Student Learning Session 2: Creating Safe Learning Environments Session 3: Responding to the Factors that Lead to Learning Difficulties Session 4: Reinforcement Exercise	10
	3.3: Analyzing and Responding to Student Mistakes Session 1: Establishing Set: Past and Current Teacher Practice Session 2: Sensory Channels that Learners Use Session 3: Analyzing Students' Mistakes Session 4: Responding to Students' Learning Needs	15
	3.4: Useful Modalities for Delivering Remediation	19
	Session 1: Identifying the Different Modalities for Delivering Remedial SupportSession 2: The Advantages and Disadvantages of Different Modalities for Delivering Remedial Support	
	Participant Assessment	24
4.	HANDOUTS AND PARTICIPANT COURSE MATERIALS	25
	Handout 3.1.1: Imbalance in Remedial Focus	
	Handout 3.1.2: Case Study Exercise (Analyzing a Student's Special Needs and Interests) Handout 3.1.3: Common Remedial Techniques	
	Handout 3.1.4: Exercise – Identifying Common Remedial Techniques in	
	a Practical Setting	
	Handout 3.2.1: Sensory Factors that May Affect Children's Learning	

Handout 3.2.2: How Academic Failure May Affect Learning	
Handout 3.2.3: Suggested Responses to Sensory Problems	
Handout 3.2.4: Suggested Responses to Problems Relating to Attitudes towards Learning & Motivation	
Handout 3.2.5: Case Study Exercise: Responding to Specific Factors that Affect Learning	
Handout 3.3.1: Classifying Sensory Channels That Learners Use	
Handout 3.3.2: What's the Problem?: Analyzing Students' Mistakes	
Handout 3.3.3: Case Study Exercise: The Case of Pheap	
Handout 3.4.1: Useful Modalities for Delivering Remedial Support	
Handout 3.4.2: Advantages and Disadvantages of the Different Modalities of Delivering Remedial Support	

1. INTRODUCTION

1.1 Overview

General: This manual is intended to assist teacher trainers in education development projects, government, or the private schools to prepare teachers to use principles of Remedial Instruction to improve student outcomes. Remedial Instruction requires that educators modulate their teaching to meet the needs of individual students or groups of students with special needs or different learning styles. The ability of schools and teachers to modulate their teaching in this way is a strong reflection of its adherence to guidelines to promote cognitive development and emotional well-being under Save the Children's *Quality Learning Environment (QLE) Framework*. Remedial instruction is an acknowledgement of the frequently cited observation that children have different learning styles, interests, and learning issues and that teachers need to adapt their teaching to these needs accordingly, especially in cases where some children are not keeping up with the rest of the class. Because Cambodian classrooms are frequently characterized by a unitary teaching approach for all students based primarily on the textbook, this methodology is very relevant to the Cambodian education system.

Target Groups: The intended target audience of the training program described in this manual are primary school teachers who are engaged in the instruction of very young children in Grades 1, 2, and 3. Nevertheless, the contents of this training program can also easily be adapted to teachers teaching at any grade level including the higher primary grades. The manual is intended to help teachers better meet the learning needs of young children at all levels whether they are struggling, average, or advanced learners.

1.2 Purpose and Content of This Manual

Purpose of This Document: The present manual has been developed as a Training of Trainers (ToT) document to assist in the preparation of primary school teachers as well as school managers to utilize remedial methodologies in order to improve student learning outcomes across all subjects but especially in the areas of literacy and numeracy.

Relevant Content: The content of this manual has been designed with the following outcomes in mind:

- Basic Principles: Enabling teachers to understand the basic principles of Remedial Instruction
- Preventing Stigma: Helping teachers to organize and group students in a way that



avoids labeling and stigma

- Modalities for Delivering Remedial Services: Providing guidance on specific modalities though which to introduce Remedial Interventions into the Cambodian context including village-based learning, peer tutoring opportunities, home-based reinforcement, and opportunities for self-learning.
- Analyzing Mistakes: Helping teachers to analyze student mistakes as an important means through which to provide remedial support.
- **Relevance of Student Learning Styles:** Helping teachers to understand the variability of student learning styles and the different sensory channels that they use when learning as an important pre-requisite when planning for remediation.
- Specific Remedial Techniques: Providing guidance to teachers on the use of specific remedial techniques to better understand why students misunderstand key concepts presented in the curriculum such as faulty decoding strategies in the case of literacy or poor understanding of mathematical algorithms for solving exercises.

1.3 Intended Applications of Remedial Instruction in Cambodia

While there is not yet a consensus about the amount of resources that should be allocated to remedial activities in Cambodian public schools, it is clear that the generally poor levels of achievement among Cambodian children demonstrate a strong need for such interventions. Some argue that it is better to put resources into preventing the need for remedial support by improving the quality of teaching in classrooms. However, the generally low level of impact of in-service training investments has muted the impact of such investments while the abbreviated nature of the school day in Cambodia constrains the amount of remediation that can occur in the classroom. In this respect, it should be noted that a Cambodian instructional hour is only 40 minutes. Other constraints such as teacher shortages, double shift teaching, and high Pupil Teacher Ratios further constrain the



amount of remediation that can be done in the classroom.

Given these constraints in the public schools, there is a strong argument to be made for remedial interventions outside of the classroom that provide the instructional support and reinforcement that children need. This is particularly true for those students who are struggling to keep up with the curriculum. There are various modalities for remedial support that can be utilized by public schools outside of the classroom to provide such support. These modalities can take in more traditional approaches such as village-based special classes close to where children live to more

contemporary interventions such as the use of mobile technology, the use of peer-topeer tutoring at the school, and home-based tutoring involving the assistance of parents. Each of these approaches is discussed in further detail in the session plans provided below.

1.5 Time Frame for the Course on Remedial Instruction

The present course takes in four topics and a total of **4 Topics** and **15 Sessions**. The specific topics and sessions covered as well as the approximate number of hours is provided in the table below:

Topics on Remedial Instruction	Proposed Hours
Topic 1: General Concepts and Principles for Doing Remediation Session 1: What is Remedial Teaching? Session 2: Ensuring Balance in Remedial Instruction Session 3: Identifying Areas of Successful Learning Section 4: Basic Techniques in Remedial Teaching Section 5: Reinforcement Exercise	2 Hours
Topic 2: Recognizing Factors that Cause Children to Experience Difficulties in Learning and Teacher Sensitization Session 1: Factors that Affect Student Learning Session 2: Creating Safe Learning Environments Session 3: Responding to Factors that Lead to Learning Difficulties Session 4: Reinforcement Exercise	3 Hours
Topic 3: Analyzing and Responding to Student Mistakes Session 1: Establishing Set: Past and Current Teacher Practice Session 2: Sensory Channels that Learners Use Session 3: Analyzing Students' Mistakes Session 4: Responding to Students' Learning Needs	3 Hours
Topic 4: Useful Modalities for Delivering Remediation Session 1: Identifying the Different Modalities for Delivering Remedial Support Session 2: The Advantages and Disadvantages of Different Modalities for Delivering Remedial Support	2 Hours
Participant Assessment	½ Hour
TOTAL HOURS	10½ Hours (2 Days with 6 Hours of Training on Day 1 and 4½ hours on Day 2)

2. EXPLANATION ABOUT HOW TO USE THIS MANUAL

This manual uses the following standard symbols to make the manual as user friendly as possible for the trainers using it. These symbols quickly convey the kinds of activities to be used with participants for each step of each session plan.



Timing Required for the Lesson



Pre-Training Preparation: Contains information on how to set up your training area for learning activities. It also gives suggestions on how to organize materials needed for the activity.



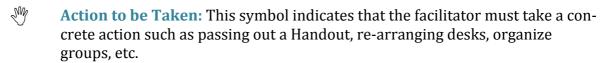
Materials Needed: This provides an overview of necessary materials. Most of the time these will be very basic things, like pens or paper. Other material in the training sessions will be provided through handouts that are attached in this manual. Sometimes they need to be duplicated by the trainer.



Learning Outcomes: Gives a statement of what should have been achieved and assessed at the end of the session.

Steps and Process Icons

Section 3 of this manual provides a series of training sessions on how to train the primary school teachers and managers who are expected to employ the various strategies discussed for enhancing learning environments both in and outside of their classrooms. The symbols below are used to help guide the actual training session. These symbols will tell the facilitator quickly what sorts of activities need to be planned for in this part of the training session. This section of the manual includes possible activities, stimulating questions, examples to clarify exercises and optional extra tasks. Although it is advisable to read through the whole lesson clearly from the beginning, especially when used for the first time, trainers can easily see what he or she has to do because of the icons used.



- Questioning Behavior: This indicates that the facilitator needs to ask a key question to the participants as a prelude to an activity or discussion.
- **Discussion:** This symbol indicates that the facilitator must lead a discussion or allow participants to discuss something in their groups.
- **Writing Tasks:** This symbol indicates that the participants need to write something on poster paper, complete an exercise, or other written task.
- **Explanation:** This symbol indicates the facilitator must explain something to participants.

3. TRAINING SESSION PLANS Course Outline and Materials

Lesson 3.1- General Concepts and Principles for Doing Remediation

(T)

Lesson Time: 2 Hours



Trainer Preparation:

- Write up the Learning Outcomes of the lesson on a sheet of poster paper to introduce the lesson.
- Make copies of **Handout 3.1.1**: *Imbalance in Remedial Focus*
- Make copies of **Handout 3.1.2**: *Case Study Exercise*
- Make copies of **Handout 3.1.3**: Common Remedial Techniques
- Make copies of **Handout 3.1.4**: Exercise Identifying Common Remedial Techniques in a Practical Setting



Resources/Materials:

- Poster paper, marker pens
- Poster sheet summarizing the learning outcomes of the lesson.
- **Handout 3.1.1:** *Imbalance in Remedial Focus*
- **Handout 3.1.2:** Case Study Exercise
- **Handout 3.1.3:** Case Study Exercise
- **Handout 3.1.4:** Exercise Identifying Common Remedial Techniques in a Practical Setting



Learning Outcomes:

- Participants can define remedial teaching in a way that stresses the primacy of individual student needs.
- Participants can explain some of the basic principles underlying activities to remediate students.
- Participants can identify what remediation principles underlie specific examples of instructional technique.

Training Steps

Outcomes of the Lesson



Place a sheet of poster paper up on the board that summarizes the learning outcomes for the lesson. Explain the outcomes and that this is what the participants should be able to do at the completion of the lesson.

Establishing Set: What is Remedial Teaching



- ◆ Begin the module by asking participants *what they think remedial teaching is.* Make a list of definitions on the blackboard. Some possible answers may include the following:
- ♦ Re-teaching the lesson
- ◆ Giving special help to certain students
- ♦ Helping students to pass
- ◆ Teaching certain students after class
- ◆ Providing special help to students according to their individual needs*



Each of these answers may have certain degrees of correctness, however, the facilitator should try to focus attention on responses that talk about matching assistance to students' individual needs. In particular, the facilitator wants to make sure that all participants understand that remediation is not simply reteaching the entire curriculum to students over again. *True remediation is the process of assessing each student's learning needs and providing appropriate support to help him or her to achieve the competencies set out in the curriculum.*

Ensuring Balance in Remedial Instruction



Pass out **Handout 3.1.1** and start a discussion about certain imbalances in remedial instruction. A common misunderstanding by many teachers about remedial education is the tendency to focus on what children cannot do as opposed to what they can already do successfully. Explain to participants that there are two aspects of special educational need:

- ♦ Special needs that relate to children's interests and successes
- ◆ Special needs that relate to the difficulties children encounter in the classroom.

When teachers are engaged in remedial teaching, they frequently remember only the second of these aspects. This can lead to some imbalance in the way special education is provided. Put up the diagram shown below on the blackboard. This diagram tries to express the need for balance in the way that teachers provide remedial support to children. Focusing exclusively on what children can not do can result in breaking their confidence in themselves. It can also affect their motivation to learn as well.

Identifying Areas of Successful Learning



In order to provide balance in the way teachers provide remedial support to children, they should try to identify the areas of successful learning that children have demonstrated and build on that. Pass out **Handout 3.1.2** to partici-



pants, which presents a Case Study for analysis. As participants to read the case study in their groups and try to identify how remedial support might be structured in a way that builds on past successes as well as the interests of the child. Participants should consider the following questions provided in the Handout:

- ◆ What are Chanthan's special interests?
- ◆ In what contexts does Chanthan seem to succeed?
- ◆ What was the teacher's response in providing remedial support to Chanthan?
- ◆ Does the teacher's response to Chanthan's need seem balanced in terms of special needs and individual interests?

When small group discussions have been completed, review responses to each question as a large group.

Basic Techniques in Remedial Teaching



Pass out **Handouts 3.1.3** and **3.1.4** to participants. Then, lead a discussion to review some basic techniques used in remedial teaching. Review each technique described in **Handout 3.1.3** asking questions and providing clarifications as necessary.

- 1. Make sure children clearly understand learning goals and have a way of monitoring their own progress towards achieving these goals. This leads children to start to take responsibility for their own learning. A useful self assessment tool for students to use is attached to this document as an example.
- 2. Provide remedial support using a wide range of sensory channels including visual (drawing exercises, use of pictures, etc.), auditory (songs, verbal drills, etc), and psychomotor ones (manipulating word and letter cards, games involving moving around the classroom, etc.). Providing remediation in this way helps to address the things students are good at doing. It also helps to build on students' past successes and strengthens a sense of self-confidence. Presenting remedial support through a weak sensory channel is likely to achieve minimal results.
- 3. *Structure instruction in small steps.* Do not present large chunks of information that may overload students' ability to comprehend.
- 4. Put understanding before speed in coverage of the curriculum. In the regular classroom, teachers often feel compelled to cover as much as the curriculum as possible regardless of whether students understand or not. In remedial classes, the comprehension rate of children should dictate the speed with which the teacher teaches.
- 5. Provide practice activities that give immediate feedback to students about how well they have understood something (e.g., moving from large group activities to small group ones in which students have time to practice what they heard in the large class group).
- **6.** Do evaluation frequently to inform instructional planning based on student need.
- 7. Provide individualized teaching based on an analysis of individual student mistakes. This may be difficult when group sizes exceed 10 children or more. Still,

through close monitoring of student group work and other kinds of formative assessment it should be possible to provide feedback to students based on their individual learning needs.

- 8. *Keep student numbers small.* The more students in a group, the more difficult it will be for teachers to provide individual help to students. Large remedial groups tend to merely replicate the learner unfriendly characteristics of the regular classroom.
- 9. **Provide learning in a purposeful and meaningful context**. The sad truth about learning in school is that it is frequently divorced from students' real world. Subjects such as language and mathematics are frequently presented in dis-embedded language or adult language that students find difficulty in understanding. Examples of purposeful learning activities may include games, simulations, and role plays.

After reviewing each of these principles with participants using specific examples, do a small group activity involving a matching exercise that provided in **Handout 3.1.4.**

Reinforcement Exercise



In their groups, ask participants to review each short example of a teaching practice provided in the handout and place the number of the technique provided in **Handout 3.1.3** that it exemplifies.



When they have competed the exercise, review and discuss as a large group in order to ensure that there is consensus on the analysis. Suggested answers are provided below:

Example	Technique that It Exemplifies	Example	Technique that It Exemplifies
1	1, 3, 5	6	4,6
2	2, 5	7	7
3	2	8	2,7
4	2, 5	9	9
5	6		

Alternative Activity: Place each short example given in **Handout 3.1.4** on a piece of poster paper at the front of the room. In small groups, ask participants to match the principles explained with a case study example that exemplifies the principle. Each group should write the number of the principle in the space provided in front of each lettered case study. When each group has finished matching case studies with the principles provided earlier, discuss as a large group.

Lesson 3.2- Recognizing Factors that Cause Children to Experience Difficulties in Learning and Teacher Sensitization



Lesson Time: 3 Hours



Trainer Preparation:

- Write up the Learning Outcomes of the lesson on a sheet of poster paper to introduce the lesson.
- Make copies of Handout 3.2.1: Sensory Factors that May Affect Children's Learning
- Make copies of **Handout 3.2.2:** How Academic Failure May Affect Learning
- Make copies of Handout 3.2.3: Suggested Responses to Sensory Problems
- Make copies of Handout 3.2.4: Suggested Responses to Problems Relating to Attitudes towards Learning & Motivation
- Make copies of **Handout 3.2.5**: *Case Study Exercise*: Responding to Specific Factors that Affect Learning



Resources/Materials:

- Poster paper, marker pens, paper strips for sorting
- Poster sheet summarizing the learning outcomes of the lesson.
- **Handout 3.2.1:** Sensory Factors that May Affect Children's Learning
- Handout 3.2.2: How Academic Failure May Affect Learning
- **Handout 3.2.3:** Suggested Responses to Sensory Problems
- **Handout 3.2.4:** Suggested Responses to Problems Relating to Attitudes towards Learning & Motivation
- **Handout 3.2.5:** *Case Study Exercise:* Responding to Specific Factors that Affect Learning



Learning Outcomes:

- Participants can describe the broad categories of factors that may lead to learning difficulties and some strategies to effectively respond to these needs including the creation of safe learning spaces, targeting learning styles, and setting homework and classwork at the right level.
- Participants can classify specific examples of causal factors according to the broad categories presented.
- Participants can determine the kinds of causal problems that certain problem signals indicate.
- Participants can identify specific responses to various factors that lead to learning difficulties.

Training Steps

Outcomes of the Lesson

Place a sheet of poster paper up on the board that summarizes the learning outcomes for the lesson. Explain the outcomes and that this is what the participants should be able to do at the completion of the lesson.

Factors that Affect Student Learning

The facilitator should begin this session by summarizing the broad categories of factors that may cause learning difficulties among children. There are 3 important sets of factors that can affect children's learning. Write these on the board:

- 1 Factors within the child (e.g., native intelligence, physical handicaps, etc.)
- 2 Children's attitudes and motivation
- 3 Home circumstances

Explain to participants that the first two factors may directly affect a child's ability to learn. The last one relating to circumstances in the home may lead to emotional and behavior problems that in turn affect a child's learning. This often happens when behavior problems poison the relationship between one's peers and teachers.

Pass out **Handout 3.2.1** that summarizes **sensory factors within the child** that may affect children's learning. Review these with participants. Sensory

factors are issues that exist within the child. When these sensory problems can be provided for, such children are often able to process information needed for learning just like any other child. Three of the most common kinds of sensory impediments are **visual**, **auditory**, or **speech** related. These problems may take visible signs that teachers should be watchful of:



* Indicators of Poor Vision

- 1. Rubs eyes excessively
- 2. Shuts or covers one eye
- 3. Is sensitive to light
- 4. Squints, blinks, or frowns when doing close work
- 5. Holds reading materials too close or too far
- 6. Complains of pains, aches, or itching in the eyes
- 7. Complains of blurred vision
- 8. Reverses letters, syllables, or words
- 9. confuses letters or similar shapes

* Indicators of Hearing Loss

- 1. Tilts head at an angle when teacher is speaking
- 2. Shows frequent lack of attention during oral lessons
- 3. Fails to respond when questioned
- 4. Has difficulty in following directions
- 5. Has peculiar voice qualities, often high pitched
- 6. Tends to rush words together
- 7. Depends on classmates for instructions
- 8. Watches the faces of speakers (especially mouth and lips)
- 9. Shows defects in speech
- 10. Frequent use of "pardon", "eh?", etc.

* Indicators of Speech Impairment

- 1. Speaks in incomplete sentences
- 2. Uses incomplete sentences with limited vocabulary and nonverbal gestures to complete a communication
- 3. Lacks fluency in expressing ideas repeats certain syllables
- 4. Shows an unwillingness to speak
- 5. Stutters
- 6. Has disorders of pitch, intensity, or quality of voice
- 7. Evidences improper breathing patterns



Distribute paper strips in which each of the factors listed on the handouts are written. You will require 26 strips of paper for the 26 factors. Rather than simply presenting these problem signs to participants, it is suggested that the facilitator try to jumble this list up and ask participants to classify each indicator by the problem category to which it belongs. This activity can be done in small groups followed by review in the large group.

Factors relating children's attitudes towards learning as well as their motivation to learn may also affect their classroom performance. Start this section by asking participants a question:

"Do they enjoy doing things that they do not do well? Why; or Why Not?"



One of the most important reasons that students often have low motivation to learn comes from the fact that academic failure leads to a sense of low self-esteem, which can in turn cause more academic failure. The facilitator should pass out **Handout 3.2.2**, which illustrates this concept. Continue to explain

that the sense of low self-esteem that children get when they experience academic failure inhibits their motivation even further. This then increases the likelihood that they will experience more academic failure.

Food for Thought?

 Do you enjoy doing things that you do not do well? Teachers sometimes contribute to this sense of low self-esteem by being insensitive to children's dignity and sense of self-worth. Ask teachers if they have ever talked about a "weak" student in front of that student. Ask teachers how they would feel if the facilitator described all the participants as "weak" to another facilitator while they were still there. Naturally, participants are likely to feel resentment and a sense of low esteem themselves. Such lapses are common among teachers and should be prevented at all costs.

Home circumstances may affect a child's learning indirectly by leading to behavior that is not conducive to learning. For example, if there is a conflict going on in the home, children may become withdrawn, depressed, or alternatively, they may act out aggressions they feel within the classroom. Such behavior patterns will likely make it difficult for students to participate in class work either in small or large groups.

Creating Safe Learning Environments

9

The QLE Framework highlights the need for emotional well-being when learning. Such well-being is also very important when providing remedial support to struggling learners. The current session will seek to help participants better understand how to create 'safe' learning environments. Accordingly, the facilitator should first split the participants into two groups. One group will create a role play of a classroom is an emotionally "safe" environment for children to learn. A second group will create a role play of an emotionally "unsafe" classroom environment. Have the participants consider the following before they prepare their role play:

- What teacher behaviors contribute to this environment?
- What student behaviors contribute to this environment?
- How does a teacher influence these student behaviors that helps contribute to this environment?
- Think about your own experiences in the classroom that has either made you feel "safe" or "unsafe".

Bring the large group back together and have each group do their role plays. After each role play discuss as a group and list the things on butcher paper at the front of the room that made these either a "safe" or "unsafe" places.

Responding to the Factors that Lead to Learning Difficulties

Pass out **Handouts 3.2.3 and 3.2.4**, which summarizes some useful responses to each of the factors that affect children's learning discussed above. Review each of these briefly. Although teachers cannot completely alleviate each of these factors, they can have some influence on each of them. For example, if children are faced with impediments to their learning due to some physical handicap, they can try to make some provision to lessen the difficulty caused by this impediment.

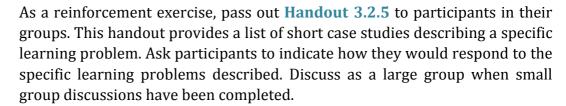
Similarly, teachers must also try to stimulate a positive attitude towards

learning among children by being sensitive to their sense of dignity and preventing negative associations with learning. Maintaining students' individual dignity is something that teachers frequently overlook.

Problems in the home are something that can be difficult to influence. Students may not receive any reinforcement for learning in their home life or there may be conflicts within the family that cause emotional stress. Teachers should look for methods of trying to involve parents in remedial classes. For example, placing remedial classes in villages is one way of making such classes more visible to parents. Teachers may also try to set aside one day a month in which parents are asked to come and observe their children learning in their village groups. Village placements decreases the distance parents need to travel and thus increases the likelihood of their occurring.

Reinforcement Exercises







Lesson 3.3- Analyzing and Responding to Children's Mistakes



Lesson Time: 3 Hours



Trainer Preparation:

- Write up the Learning Outcomes of the lesson on a sheet of poster paper to introduce the lesson.
- Make copies of **Handout 3.3.1:** Classifying Sensory Channels that Learners Use
- Make copies of Handout 3.3.2: What's the Problem? Analyzing Students' Mistakes
- Make copies of **Handout 3.3.3:** Case Study Exercise: The Case of Pheap



Resources/Materials:

- Poster paper, marker pens, paper strips for sorting
- Poster sheet summarizing the learning outcomes of the lesson.
- **Handout 3.3.1:** Classifying Sensory Channels that Learners Use
- **Handout 3.3.2:** What's the Problem? Analyzing Students' Mistakes
- **Handout 3.3.3:** Case Study Exercise: The Case of Pheap

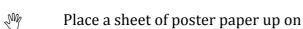


Learning Outcomes:

- Participants can determine those areas of learning that students do not understand through analysis of their mistakes.
- Participants can adjust their develop prescriptive responses to children's individual learning student needs based on an analysis of their mistakes.

Training Steps

Outcomes of the Lesson



Place a sheet of poster paper up on the board that summarizes the learning outcomes for the lesson. Explain the outcomes and that this is what the participants should be able to do at the completion of the lesson.

Establishing Set: Past and Current Teacher Practice

A good way to start this module is to relate some anecdotes about the way that many teachers have in the past tried to correct students. An example of such an anecdote is provided in the box to the right. The facilitator may have had similar experiences of his or her own that are equally appropriate.

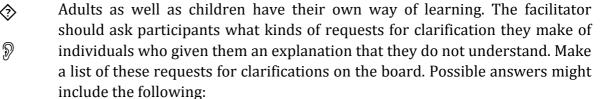
The point of this anecdote is to point out that many teachers have very little sensitivity to students' learning needs. They think that there is only one way to understand something, which invariably is *their* way. They, therefore, make very little attempt to under-

A Possible Anecdote

During a Technical Day
Meeting, a teacher was
complaining that he was
frustrated with how stupid
his students were. Even
after he had taught students something two times,
most still could not understand the basic concept. He
concluded that some children just do not belong in
school.

stand what it is in their explanation that is confusing to students and even less attempt to alter their teaching to meet students' learning needs. This conforms with the wide spread misconception that remedial teaching means simply re-teaching the lesson over again in the same way. This is usually a waste of time for both the teacher and the students.

Sensory Channels that Learners Use



- Can you give me an example?
- Can you use simpler language?
- Can you show me how it is done?
- *I did not understand what you mean by, can you use another word?*
- Can you draw me a diagram?
- Can you show me on a map?
- Can you explain that again more slowly?

The explanations that we receive are really a form of *remediation* because the person providing the explanation has <u>modified</u> his or her way of explaining something in order to meet our particular needs.



Pass out **Handout 3.3.1**, which contains an exercise on classifying requests for re-explanation by sensory channel.

In their small groups, ask participants what kinds of individual learning needs that each of these requests for clarification provided in the handout demonstrate? In the ensuing discussion, try to point out that individuals frequently differ in the sensory channels that they rely on most to understand something. Some people prefer **Visual** explanations (pictures, maps, diagrams) while others prefer those that rely on **Verbal or Auditory** presentation (speaking, the printed word, etc.). Some individuals prefer more **Kinesthetic** explanations that involve using one's hands or whole body. As adults, we developed these learning styles from the time that we were children ourselves.

In the context of a classroom or remedial grouping of children, the students are frequently unable to phrase what it is they do not understand. Thus, it is the duty of the teacher to review a child's behavior and classroom work and try to determine the cause of their poor understanding. The adjustment in our teaching that we make based on this analysis is called *remediation*.

Analyzing Students' Mistakes

One of the ways that teachers get important information through which to adjust their teaching is by looking at children's mistakes and the sensory channel that is best used for the re-teaching. As noted earlier, many teachers never get beyond looking at the exercises that students complete as either "right" or "wrong." When students make mistakes, teachers should consider what the student has done wrong because very frequently, the same mistake may be repeated again and again.

As a large group, ask participants to look at the following mathematics exercise that a child has computed incorrectly (see below). Try to analyze what the student has done consistently wrong in computing each answer.

The analysis should yield the answer that the student has subtracted the smaller number from the larger number regardless of whether it is on top or the bottom. Such an analysis can help the teacher to rephrase the explanation of how to subtract two digit numbers stated in this way so that the bottom number is always subtracted from the top number. As an aid to the student, the teacher might provide arrows in each problem to remind the student that this is the order in which to do subtraction:



Pass out **Handout 3.3.2** that provides a list of common student mistakes in both Mathematics and Language. Next, ask participants to determine the na-

ture of the mistake in each example. Do this in small groups.

When groups have finished their analyses, have each group report back on what they found. Discuss.

Responding to Students' Learning Needs

P

Analyzing problems helps teachers to identify the symptoms of a problem. The next step is to provide the treatment. A useful analogy for the facilitator to make in this regard is with the way a doctor works. After checking a patient, a doctor makes a prescription based on the problems he or she has found.

Next, pass out **Handout 3.3.3**. This handout describes a case study of how a teacher might develop a response to the problems encountered by a specific child in mathematics. Discuss the case study together as a large group and then ask participants to fill in the last part of the handout in small groups (i.e., the prescription or solution that might be recommended). When each group has discussed this, come back together as a large group to share possible responses. It is important for the facilitator to remember that there are likely to be many possibilities in the remedial action to be taken. Below are some suggestions to help the facilitator guide discussion:

- * <u>Use model numbers such as 10-rods and 1-cubes:</u> When shown a number with the model, Pheap should be able say the number and write it. When shown a written number, Pheap should be able to show it with the model.
- * <u>Model addition by combining numbers represented by the model:</u> When shown written addition problems, Pheap should be able to both read the problem and show the problem by representing the numbers with the model and combining them.
- * Emphasize that we add like units (ones plus ones, tens plus tens)
- * Practice using the 3rd step in both horizontal and vertical addition examples. When difficulties occur, use physical models to reinforce correct procedures.

Lesson 3.4- Useful Modalities for Delivering Remediation



Lesson Time: 2 Hours



Trainer Preparation:

- Write up the Learning Outcomes of the lesson on a sheet of poster paper to introduce the lesson.
- Make copies of Handout 3.4.1: Useful Modalities for Delivering Remedial Support
- Make copies of **Handout 3.4.2:** Advantages and Disadvantages of the Different Modalities of Delivering Remedial Support
- Gather some self-study games as examples of materials that help to reinforce learning. Good examples of such materials can be found in the MoEYS Reading Benchmark Booklets
- Gather some tablets with educational programming for self-study (e.g., *Aan Khmer* for Grade 1); plan for one tablet per group.
- Gather some basal readers and other materials that are tailored to particular learning levels



Resources/Materials:

- Poster paper, marker pens, paper strips for sorting
- Poster sheet summarizing the learning outcomes of the lesson.
- **Handout 3.4.1:** Useful Modalities for Delivering Remedial Support
- Handout 3.4.2: Advantages and Disadvantages of the Different Modalities of Delivering Remedial Support
- Self-study games as examples of materials that help to reinforce learning. Good examples of such materials can be found in the MoEYS Reading Benchmark Booklets
- Tablets with educational programming for self-study (one per group)
- Examples of Basal readers



Learning Outcomes:

- Participants can identify several possible modalities for delivering remedial support to children who are struggling with their learning.
- Participants can describe some of the key aspects of different modalities for delivering remedial support who are struggling with their learning.
- Participants can identify some of the advantages and disadvantages of the various modalities for delivering remedial support to children.

Training Steps

Outcomes of the Lesson

Place a sheet of poster paper up on the board that summarizes the learning outcomes for the lesson. Explain the outcomes and that this is what the participants should be able to do at the completion of the lesson.

Identifying the Different Modalities for Delivering Remedial Support

Start this training by explaining that it is useful to think of remedial support activities as falling into one of two categories. This refers to more 'informal' kinds of activities that occur outside of the classroom and more 'formalized' activities that generally occur within the classroom or classroom-like contexts.

Write these two categories on the board and see if participants can brainstorm some examples of remedial support activities that exemplify each of these two categories. Discuss together as a large group. A suggested list of seven remedial support modalities is provided below to help the facilitator guide the discussion. Participants may be able to expand further on this list.

Table: Suggested Modalities for Delivering Remedial Support

Informal Remedial Activities	Formalized Remedial Activities
Peer Tutoring	Mixed Ability Groupings under Coop- erative Learning
Self-Study Opportunities	Tailored Remedial Instruction Outside of the Classroom
Engaging Parental Support	
Using Technology	
Using Special Curricular Materials Appropriate to Children's Level	

- Next, lead a discussion about each of these delivery modalities of remedial support to describe key characteristics of each. Review each modality as a large group probing to see what participants already know about them while filling in any gaps in understanding. Facilitators should use **Handout 3.4.1** as a resource to supplement their own knowledge of these modalities.
- It is also helpful to use the materials that facilitators brought to the workshop as a means to provide good examples how remedial support can be provided. For example:
 - Educational Games provide an excellent modality for Self-study Op-

- portunities where children can reinforce their knowledge through play either by themselves or with others. Such games also provide a good means through which to conduct *Peer Tutoring*.
- **Tablets** can be loaded with many electronic programs that are linked with the curriculum. This includes a new literacy program called Aan Khmer as well as electronic readers based on the curriculum. Distribute one tablet to each group and demonstrate how these games can be used with children.
- **Basal Readers** such as those developed by BETT are excellent curricular materials that are pegged to children's learning level.



As the facilitator reaches the end of this exploratory discussion, distribute **Handout 3.4.1** to each participant, which provides a short explanation of each modality. Review together the list that was written up earlier, noting any points in the handout that was left out from the previous discussion. Discuss any questions that participants may have about what each modality entails.

The Advantages and Disadvantages of Different Modalities for Delivering Remedial Support



In order to help participants to better understand when and how these kinds of remedial activities should be organized, ask them to do a group activity in which they identify the *Advantages* and *Disadvantages* of each modality. Such factors should reflect characteristics of the Cambodian context such as cost, the availability of human resources (e.g., teacher shortages), the time poor nature of parental schedules, and other issues.



Pass out **Handout 3.4.2A** to participants and ask them to discuss these factors in their small groups for 30 to 40 minutes, completing the handout as they go. When participants have completed the exercise in their groups, they should record their ideas onto a sheet of poster paper and be ready to report their analysis to the large group. As groups report their findings, the facilitator should respond using the discussion guide points provided in the table below.

Table: Discussion Guide Points on Advantages and Disadvantages of Different Modalities for Delivering Remedial Support

Delivery Modality	Advantages	Disadvantages
Peer Tutoring	 Children are better at explaining things to each other than are adults Explanations provided by children are non-threatening Uses children as a resource, which cost little Strengthens values of helping behavior and cooperation among older children 	 Limited time available for peer tutoring such as during school breaks Denies break time to children who are delivering peer tutorin Difficult to explain to children how to do tutoring, especially formore difficult concepts

Self-Study Opportunities	 Children can move at their own pace in reviewing content Children can choose materials to study that meets their interests, readiness to learn level, and preferences. Reinforces habits of study outside of the classroom 	 Requires a wide range of study materials that are suitable for children in terms of their needs, interests, and preferences Suitable materials are often only available at the school There is little unstructured time in the school day that can accommodate Self-study opportunities
Engaging Parental Support	 Utilizes free time at home for supplementing study Facilitates communication between parents and teachers about children's needs Parents are loved and trusted by their children which gives them special leverage in teaching them 	 Parents are often time poor and have no time to investigate their children's needs or spend time with them doing homework Many parents do not have the needed literacy skills needed to help their children
Using Technology	 Provide useful games and reinforcement where children can pace themselves Does not require any mediation by teachers or other adults. Programs are often self scoring so that an adult can easily monitor what and how well have been studying on a tablet. Can provide useful games and graphics that draw children's attention and go beyond more pedantic explanations that often miss the mark 	 Technology is an expensive investment for schools, though costs are declining Constraints in good management at many Cambodian schools entails risks for maintenance and security. Many electronic programs are not linked to the curriculum
Curricular Materials Appropriate to Children's Level	 Materials are pegged to children's readiness level to learn Prevents frustration and low confidence when children encounter materials that are too difficult 	 These materials are difficult to find in Cambodia It is difficult to link these materials to the existing curriculum
Mixed Ability Groupings under Cooperative Learning	 Uses children as a resource when more able children aid their peers who cannot keep up More able children can amplify the amount of instruction that occurs in the classroom (in addition to that of the teacher) Children learn more easily from each other than from adults 	 The short teaching period in Cambodian schools (40 minutes) makes it very difficult to organize group work during class time. Most Cambodian teachers do not understand fully the methodologies underlying Cooperative Learning (e.g., division of labor in groups, etc)

Tailored Remedial Instruction

- Allows special help for struggling learners in more informal settings
- Enables very small groupings of children to work together
- When organized in village and neighborhood-based camps, it minimizes stigma
- Teacher shortages make it difficult to find teachers to engage in remedial activities outside of their regular classrooms
- Because such classes are locally based outside of the school, it is difficult to achieve wide access to children across the entire school
- Can be very costly to deliver



Following the discussion with participants, the facilitator should pass out **Handout 3.42B**, which lists out all of the above points. This should be a valuable resource for participants with regards to the various modalities of delivering remedial support services.

Participant Assessment

Following the completion of all training sessions, distribute the following participant understanding assessment below and ask participants to complete it as honestly as they can. Participants need not place their names on the form.

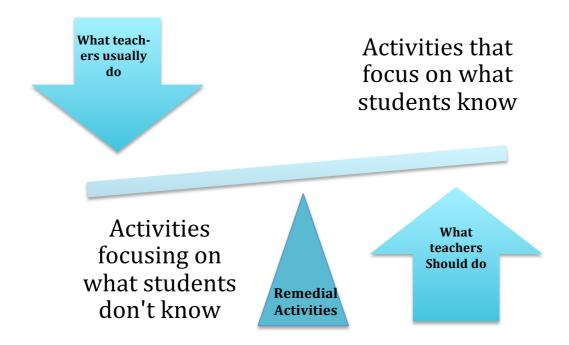
Participant Assessment Form

Directions: Read each question below and choose the ONE response that best matches what you feel. You do not need to write your name on this survey form. How would you describe your understanding of the content presented in this seminar? ☐ I understood all or nearly all of what was presented. ☐ I understood most but not all of what was presented. ☐ I only understood about half of what was presented. ☐ I hardly understood anything that was present d. How would you describe the usefulness of the materials that were distributed? ☐ I found the materials very useful and informative. ☐ I found the materials somewhat useful and informative but some were not clear ☐ I found the materials not so useful or informative. How would you describe the manner of presentation of the training? ☐ Too much lecturing ☐ Just about right ☐ Not enough lecturing How would you describe the manner the amount of group work? ☐ Too much group work ☐ Just about right □ Not en ugh group work How well equipped do you feel to return to your communities and schools and use what you have learned in this workshop? ☐ Very well equipped ☐ Somewhat well equipped ☐ Not at all well equipped How much merit do you feel the suggested ideas in this workshop have? ☐ A great deal of merit ☐ A great deal of merit but somewhat difficult to implement

□ Not so much merit or relevant to the real problems in my school/community

4. PARTICIPANT COURSE MATERIALS **Handouts & Resource Documents**

HANDOUT 3.1.1: Imbalance in Remedial Focus



Explanation:

- 1. There are two aspects of special educational need:
 - Special needs that relate to children's interests and successes
 - Special needs that relate to the difficulties children encounter in the classroom.
- 2. When teachers implement remedial interventions, they frequently only remember the second of these things.
- 3. This creates an imbalance in remedial support that undermines children's confidence to learn

HANDOUT 3.1.2: Case Study Exercise

(Analyzing a Student's Special Needs and Interests)

Directions: Read the case study below and discuss in your group what appear to be the special interests of the student whose name is Chanthan. Then, answer the questions below and prepare to be present your thoughts to the larger group.

Chanthan was a young boy in Grade 1 who was very shy and afraid of the teacher. Whenever the teacher called on Chanthan to read or write anything, he froze into silent fear. During several lessons, however, the teacher noticed that Chanthan seemed more at ease with his classmates and was a strong participant in group work. The teacher also noticed that Chanthan really liked to draw and was in fact a very good artist.

Because Chanthan was having many problems with reading and writing, the teacher tried to structure reading and writing activities in a way so that Chanthan worked with his friends and also combined drawing with some of the required task work. For example, in doing short compositions, Chanthan was asked to make a series of drawings about something he did yesterday down one side of the paper and write one or two sentences about what was happening in each picture.

Discussion Questions

- 1. What are Chanthan's special interests?
- 2. In what contexts does Chanthan seem to succeed?
- 3. What was the teacher's response in providing remedial support to Chanthan?
- 4. Does the teacher's response to Chanthan's need seem balanced in terms of special needs and individual interests?

HANDOUT 3.1.3: Common Remedial Techniques

- 1. Make sure children clearly understand learning goals and have a way of monitoring their own progress towards achieving these goals. This leads children to start to take responsibility for their own learning. A useful self assessment tool for students to use is attached to this document as an example.
- 2. Provide remedial support using a wide range of sensory channels e.g., visual (drawing exercises, etc.), auditory (songs, verbal drills, etc), and psychomotor ones (manipulating word and letter cards, games involving moving around the classroom, etc.). Providing remediation in this way helps to address the things students are good at doing. It also helps to build on students' past successes and strengthens a sense of self-confidence. Presenting remedial support through a weak sensory channel is likely to achieve minimal results.
- 3. *Structure instruction in small steps.* Do not present large chunks of information that may overload students' ability to comprehend.
- 4. *Put understanding before speed in coverage of the curriculum.* In the regular classroom, teachers often feel compelled to cover as much as the curriculum as possible regardless of whether students understand or not. In remedial classes, the comprehension rate of children should dictate the speed with which the teacher teaches.
- 5. Provide practice activities that give immediate feedback to students about how well they have understood something (e.g., moving from large group activities to small group ones in which students have time to practice what they heard in the large class group).
- 6. Do evaluation frequently to inform instructional planning based on student need.
- 7. **Provide individualized teaching based on an analysis of individual student mistakes.** This may be difficult when group sizes exceed 10 children or more. Still, through close monitoring of student group work and other kinds of formative assessment it should be possible to provide feedback to students based on their individual learning needs.
- 8. *Keep student numbers small.* The more students in a group, the more difficult it will be for teachers to provide individual help to students. Large remedial groups tend to merely replicate the learner unfriendly characteristics of the regular classroom.
- 9. **Provide learning in a purposeful and meaningful context.** The sad truth about learning in school is that it is frequently divorced from students' real world. Subjects such as language and mathematics are frequently presented in dis-embedded language or adult language that students find difficulty in understanding. Examples of purposeful learning activities may include games, simulations, and role plays.

HANDOUT 3.1.4:

Exercise - Identifying Common Remedial Techniques in a Practical Setting

Directions: Read the short case study examples provided below and write the number of the technique provided in Handout 3.1.3 in the space provided that it exemplifies. Some examples may exemplify more than one technique.

kample
 A teacher informs students that they are going to learn to read and write 5 new words today. At the end of the session, students are asked to write the new words in their notebooks and to record how many they got right during exercises done during class.
 A teacher presents 5 letters to students followed quickly by practice in matching letter cards to picture cards with the same sound.
 After learning some new words, a teacher has students practice by singing a song.
 After teaching some number facts on addition, a teacher lets students practice by standing in groups to represent number sentences showing addition.
 A teacher gives short quizzes to students at the end of each 2-hour session to monitor their understanding.
 A teacher decided to use an extra day to teach children a lesson on sub-traction because most students did not seem to understand the main concepts yet.
 In teaching subtraction, a teacher found that Rithy did not know that it was necessary to subtract the bottom number from the to number so the teacher added some visual clues to help him.
 A teacher found that one student could not distinguish between addition or subtraction so highlighted addition problems in a dif- ferent color.
 A teacher organized the classroom like a market place. Half the class received play money while the other half pretended that they were selling things represented on little cards by such pictures as soap, clothing, food products, etc Students were required to practice addition and subtraction by making correct purchases and checking the change they received.

HANDOUT 3.2.1:

Sensory Factors that May Affect Children's Learning



Vision

- Rubs eyes excessively
- Shuts or covers one eye
- Is sensitive to light
- Squints, blinks, or frowns when doing close work
- Holds reading materials too close or too far
- Complains of pains, aches, or itching in the eyes
- Complains of blurred vision
- Reverses letters, syllables, or words
- Confuses letters or similar shapes



Jearing

- Tilts head at an angle when teacher is speaking
- Shows frequent lack of attention during oral lessons
- Fails to respond to questions
- Has difficulty in following directions
- Has peculiar voice qualities, often high pitched
- Tends to rush words together
- Depends on classmates for instructions
- Watches faces of speakers (especially mouth & lips)
- Shows defects in speech
- Frequent use of "pardon", "eh?", Etc.

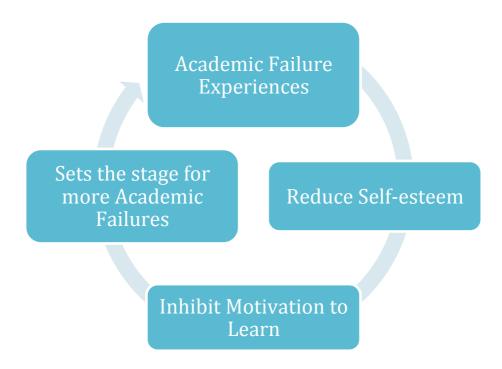


Speech

- Speaks in incomplete sentences
- Uses incomplete sentences with limited vocabulary & nonverbal gestures to complete a communicati on
- Lacks fluency in expressing ideas repeats certain syllables
- Shows an unwillingness to speak
- Stutters
- Has disorders of pitch, intensity, or quality of voice
- Evidences improper breathing patterns

HANDOUT 3.2.2:

How Academic Failure May Affect Learning



- Academic Failure can start a cycle of poor learning events that reinforce each other
- Remedial teaching should seek to break this cycle so that children enjoy learning, which stimulates the desire to learn more

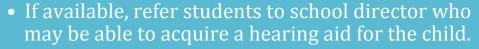
HANDOUT 3.2.3: Suggested Responses to Sensory Problems

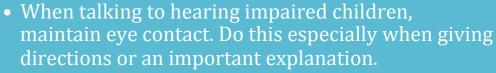


Visual Problems

- If available, refer students to the school director who may be able to acquire prescription glasses for students
- Place the student's working area in a well lit area.
- Ensure that students view of the board is not blocked by sunlight glare.
- Place student close to the blackboard.
- Where possible, provide student with large print versions of written materials.
- Color code specific words to help visual discrimination.







- Speak in a natural tone of voice. Do not exaggerate tone, pitch, or lip movements.
- Teach from a position where your face is well-lighted. Do not stand with your back to a glaring light or window as this makes it difficult for the student to see your face or lip movements.
- If there is a lot of group work in the class, seat the hearing impaired child near the front where it is easy to turn and look into the face of another child who may be talking.
- Write key words or phrases on the board whenever possible.





Speech Problems

- Try to tune into the child's speech pattern and work with the child in improving it.
- Do not allow other children to laugh at the child.
- Avoid interrupting the speech of impaired children. Allow them to finish their thoughts verbally before responding to them. They need to learn to finish their own sentences.
- Try to understand children's problems and support attempts to overcome them. It is important to remember that many speech disorders have a psychological basis and supportive efforts can help the child overcome these difficulties.

HANDOUT 3.2.4:

Suggested Responses to Problems Relating to Attitudes towards Learning & Motivation

Circumstances at School and In the Classroom



- Structure remedial activities so that they build on children's past successes and interests. This in particular means finding out what their interests are and trying to put learning in this context. It may also require switching presentation of lesson content to sensory channels in which the child is most proficient (visual, auditory, psychomotor). Teachers must, therefore, know *how* children seem to learn best.
- Try to make learning purposeful and meaningful. A good example of a meaningless remedial activity is asking children to do mathematics drills or read "reading" books. Such activities have little relevance to the real world in which students live. Teachers are advised to structure learning activities into games with clear objectives, simulations, role plays, research outside the classroom, and use of reading materials that students are likely to find in their environments (e.g., magazines, labels on packages, bottles, etc.).
- Place remedial classes in village study sites so that it is NOT apparent to other students that these students are receiving "special" help. Placing remedial classes in schools often highlights this fact much to the embarrassment of students, especially older ones.
- Be sensitive to the dignity and self-esteem of the child. *Never* call the child weak, slow, or dumb in front of the child or his or her peers.

Circumstances in the Home



- For children who are withdrawn, place them in groups with children who seem to be the most friendly.
- Try to meet with parents to see what kinds of problems may be occurring in the home.
- Invite parents to come and visit the remedial grouping to see how their child is learning.

HANDOUT 3.2.5:

Case Study Exercise: Responding to Specific Factors that Affect Learning

Directions: Identify the Problem that you see in each short case study below and indicate how you would respond to it in order to improve children's learning:

Huon seems unable to acquire reading skills. Whenever he writes, he holds his head close to the paper. He has headaches often and frequently squints at the blackboard.
Pheap speaks in a loud voice and never seems able to follow directions. She has a short attention span and frequently stares at people when they are speaking.
Saran frequently seems bored when in class. He is always absent and the times that he is in class he just does not seem to follow the lesson. The teacher has been to see Saran's parents who are surprised that Saran has such problems in school because he seems to them to be a bright child. He especially loves music and enjoys singing to the whole family.
Sontheara is a student who loves to read but seems to always get failing grades in mathematics. It seems that everytime the teacher turns around, she is reading another romance story. Her performance in exercise drills are particularly bad.
Somanee is the quietest student in the class. Her grades are poor in nearly every subject. She seems to be always tired and withdrawn when in class. During small group work, she sits at the edge of the group and rarely participates. Even during recess, she sits by herself and never plays with other children.

HANDOUT 3.3.1:

Classifying Sensory Channels That Learners Use

Directions: The explanation below describes some of the sensory channels that all learners use to understand information. After reviewing the definition of each sensory channel, read the examples of requests from learners in the Exercise below and indicate what sensory channel the learner seems to prefer.

Sensory Channel		Definition
	Visual	Learning things by examining pictures, drawings and diagrams
	Verbal or Auditory	Learning things through oral or written explanations that use words and sounds
	Kinesthetic	 Learning things by actually doing them with one's hands; Observing how something is done in a physical way Using one's body or hands to do or feel something

Request for Clarification	Sensory Channel Implied
1 Can you give me an example?	
2 Can you use simpler language?	
3 Can you show me how it is done?	
4 I did not understand what you mean by, can you use another word?	
5 Can you draw me a diagram	
6 Can you show me on a map?	
7 Can you explain that again more slowly?	

HANDOUT 3.3.2:

What's the Problem? Analyzing Students' Mistakes

Directions: Review the student work provided below and indicate the mistake in their reasoning (not the mistake itself) that led the student to solve the problem incorrectly.

No	Student Work That Indicates a Mistake	Your Analysis of WHY the Student Did This Wrong
1.	1,300	
	<u>- 522</u>	
	878	
2.	140	
	<u>- 21</u>	
	120	
3.	1,300	
	<u>- 522</u>	
	788	
4.	521	
	<u>- 88</u>	
	231	
5.	662	
	<u>- 357</u>	
	205	
6.	9 > 11	
	10 < 9	
	<i>8</i> < <i>9</i>	
	7 < 8	
<i>7.</i>	1 + 2 + 3 = 123	
8.	รรีร	

No Student Work That Your Analysis of WHY the Student Did Indicates a Mistake This Wrong

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 \bigcap d)

HANDOUT 3.3.3:

Case Study Exercise: The Case of Pheap

Directions: The information below describes some of the learning problems of a student named Pheap when doing addition. The description reflects an analysis done by Pheap's teacher while reviewing some of the homework papers that Pheap did at home. After reading the analysis, try to identify some solutions that you as a teacher might do to help Pheap improve her ability to do addition.

- **1. BACKGROUND:** Pheap, a second grade student, is a relatively cooperative child with a positive home influence. But Pheap has often received poor marks on addition papers. The teacher decided that the problem was consistent enough to take some extra time and attention.
- **2. INITIAL ANALYSIS:** As a first step in the analysis of the problem, the teacher went to her files. In the files were copies of daily papers and tests that the children had completed so far during the school year. On examination of Pheap's papers, the teacher compiled a list of the addition problems that Pheap had done incorrectly:

3. INTERMEDIATE ANALYSIS (1): Pheap's teacher decided that Pheap had problems in two areas – basic math facts (3 + 6, 3 + 5) and horizontal addition. Before beginning instruction, however, she double-checked her conclusions with further analysis. The teacher went back to the file to see if the observed errors were consistent. The teacher noted that, although Pheap had given 6 + 3 = 8 on two occasions, Pheap had given the fact correctly on five occasions. Although Pheap had given 3 + 5 = 7 twice, Pheap had given that correctly once. A more complete look at Pheap's attempts at horizontal addition showed a rather mixed and complicated picture. Pheap consistently problems like these:

On the other hand, Pheap consistently answered questions like these correctly:

$$51 + 7 = 58$$
 $23 + 2 = 25$ $63 + 5 = 67$ (correct except for the fact error, $3 + 5 = 7$)

Pheap also consistently got this type of problem correct:

$$20 + 6 = 26$$
 $5 + 40 = 45$ $7 + 10 = 17$ $8 + 20 = 28$

4. INTERMEDIATE ANALYSIS (2): Next, Pheap's teacher gave her the following problems to do and observed her work:

$$30+6=$$
 $5+70=$ $24+5=$ $8+11=$

- **5. FINDINGS:** Pheap gave correct answers on all but the last problem. When Pheap wrote the incorrect answer 91, her teacher stopped her and said, "Tell me how you get that." Pheap's response was, "You just add the 8 and the 1 because they are next to each other."
- **6. CONCLUSIONS:** Pheap's teacher recalled that Pheap had done well on problems about tens and ones and decided that Pheap answered problems like 20 + 6 and 7 + 40 correctly simply by thinking about tens and ones. She decided that Pheap's problem with horizontal addition was caused by her following an incorrect system of rote rules that ere not really meaningfully but which gave enough correct answers to be reinforced. She decided that Pheap apparently did not "see" what was going on when two-digit numbers were being added.

Solution:				

HANDOUT 3.4.1:

Useful Modalities for Delivering Remedial Support

Informal Modalities for Delivery



Peer Tutoring

- . In this activity, older children in Grades 4, 5, or 6 may be assigned to work with younger children to help them to read.
- Older peers receive specific games from the school to play with the children, based on where they are having the most difficulty.
- Schools help organize this activity both in terms of making reading games available to peer tutors and making places available for children to learn together (e.g., Kiosk, bench, etc)



Self-study opportunities

- Under this modality, children have time to practice their skills under conditions of independent study where they can explore or read at their own pace.
- Reading camps provide an excellent opportunity for such study.



Engaging Parental Support

- Provide scorecards or progress reports to parents on a regular basis
- Allow parents to borrow literacy games and booklets from the library to play/read with their children
- Explain to parents how to track children's learning in specific areas. This will enable parents to know in what areas they should be helping their children



Using Technology

If the school library is equipped with mobile learning devices, students can reinforce their learning through self-paced literacy and numeracy games that are electronic in form.

Electronic games are automatically scored allowing chidren to proceed at their own pace



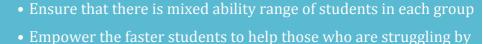
Using Curricular Materials Appropriate to Children's Level

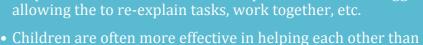
- There are now many levelled materils such as basal readers that are designed to help children study at their own speed
- Provide such materials to children who are struggling with literacy or numeracy skills.

Formal Modalities for Delivery











 Assign tasks to struggling children in the group that will allow them to experience success and build confidence



Tailored Remedial Instruction Outside of the Classroom

- Organize remedial groupings outside of the formal environments at the school, where children do not learn well
- Keep group sizes to 15 children or less
- Maintain an informal environment that is in contrast to the more formalized environment at the school
- Group children together in very small groupings of 2 or 3 children each
- Ensure an abundance of learning materials such as letter cards, reinforcement games, and other manipulatives that children can use at their own pace



HANDOUT 3.4.2A:

Advantages & Disadvantages of the Different Modalities for Delivering Remedial Support

(Worksheet)

Directions: Based on your understanding of the different modalities of delivering remedial services to children with special needs, what might you expect to be some of the Disadvantages and Disadvantages of each modality? Discuss these issues together in your groups and complete the table provided below. When you have finished, present your ideas to the large group and discuss/modify as needed.

Delivery Modality	Advantages	Disadvantages
Peer Tutoring	•	•
Self-Study Opportunities	•	•
Engaging Parental Support	•	•
Using Technology	•	•
Using Special Curricular Materials Appropriate to Children's Level	•	•
Mixed Ability Groupings under Cooperative Learning	•	•
Tailored Remedial Instruction Outside of the Classroom	•	•

HANDOUT 3.4.2B:

Advantages & Disadvantages of the Different Modalities for Delivering Remedial Support

Delivery Modality	Advantages	Disadvantages
Peer Tutoring	 Children are better at explaining things to each other than are adults Explanations provided by children are non-threatening Uses children as a resource, which cost little Strengthens values of helping behavior and cooperation among older children 	 Limited time available for peer tutoring such as during school breaks Denies break time to children who are delivering peer tutoring Difficult to explain to children how to do tutoring, especially for more difficult concepts
Self-Study Opportunities	 Children can move at their own pace in reviewing content Children can choose materials to study that meets their interests, readiness to learn level, and preferences. Reinforces habits of study outside of the classroom 	 Requires a wide range of study materials that are suitable for children in terms of their needs, interests, and preferences Suitable materials are often only available at the school There is little unstructured time in the school day that can accommodate Self-study opportunities
Engaging Parental Support	 Utilizes free time at home for supplementing study Facilitates communication between parents and teachers about children's needs Parents are loved and trusted by their children which gives them special leverage in teaching them 	 Parents are often time poor and have no time to investigate their children's needs or spend time with them doing homework Many parents do not have the needed literacy skills needed to help their children
Using Technology	 Provide useful games and reinforcement where children can pace themselves Does not require any mediation by teachers or other adults. Programs are often self scoring so that an adult can easily monitor what and how well have been studying on a tablet. Can provide useful games and graphics that draw children's attention and go beyond more pedantic explanations that often miss the mark 	 Technology is an expensive investment for schools, though costs are declining Constraints in good management at many Cambodian schools entails risks for maintenance and security. Many electronic programs are not linked to the curriculum

Delivery Modality	Advantages	Disadvantages
Curricular Materi- als Appropriate to Children's Level	 Materials are pegged to children's readiness level to learn Prevents frustration and low confidence when children encounter materials that are too difficult 	 These materials are difficult to find in Cambodia It is difficult to link these materials to the existing curriculum
Mixed Ability Groupings under Cooperative Learning	 Uses children as a resource when more able children aid their peers who cannot keep up More able children can amplify the amount of instruction that occurs in the classroom (in addition to that of the teacher) Children learn more easily from each other than from adults 	 The short teaching period in Cambodian schools (40 minutes) makes it very difficult to organize group work during class time. Most Cambodian teachers do not understand fully the methodologies underlying Cooperative Learning (e.g., division of labor in groups, etc)
Tailored Remedial In- struction	 Allows special help for struggling learners in more informal settings Enables very small groupings of children to work together When organized in village and neighborhood-based camps, it minimizes stigma 	 Teacher shortages make it difficult to find teachers to engage in remedial activities outside of their regular classrooms Because such classes are locally based outside of the school, it is difficult to achieve wide access to children across the entire school Can be very costly to deliver