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## **How to make good use of 1-2 computers with large classes of primary grade children**

Computers as a teaching aid for English as a second language (ESL) provide an opportunity for children to improve their aural English skills, using software with voice prompts. This is especially useful in situations where English is not spoken in the community or the home. However for the computers to be effective, the children must have adequate access.

Using computers to assist learning in other curriculum areas can stimulate and motivate students, especially children, more than any other teaching resource.

However many schools cannot afford a whole computer lab and must make do with as few as 1 or 2 computers for the whole school. Even in developed countries classrooms will sometimes only have access to one or two computers and in smaller schools, composite classes (multiple grades in one class) can be quite large.

This article is written primarily for teachers involved in the PIMD program in Sri Lanka - *ESL and Computer Literacy for Grade 1 and 2 Children in Village Schools*. It provides some ideas, drawn from a variety of sources on the Internet, on how to make effective use of one or two computers for a large primary grade class. We have also shown how the strategies can be applied to selected lessons in the PIMD curriculum. The article is a guide only and teachers will need to develop their own strategies to suit their individual school situation.

*Here are fifteen strategies to get the most out of a one or two-computer classroom :*

1. Have the students work in pairs or small groups (3-4 maximum). Assign each group member a role (e.g. director, keyboard/mouse operator, tutor) and rotate roles during the computer session.
2. Allow a minimum of 25 minutes per session at the computer – fewer, longer sessions are better than many short sessions.
3. Use the computers as an activity for one group or pair while the rest of the class does other activities around the same theme.

4. Make sure you have appointed a group leader from amongst the group – ideally a more computer-literate student. Identify these group leaders early so that they can be used to help develop / tutor the other students.
5. Train the group leaders in the particular software or exercise first so that they can then teach the other students in their group.
6. If the computers are not in the classroom, use the blackboard or charts to explain to the whole class how the software program works so that when they go to the computer they can work largely unassisted. You may still need an older student or parent to supervise.
7. Where appropriate, create templates in the software program for the exercise that you want the students to complete. This saves time and enables the students to focus on the learning experience rather than losing time just setting up the software.
8. Create posters and help sheets which are displayed near the computer to help students with basic operations. This will reduce the number of questions they ask you.
9. Try to hold lessons in or very near to the computer room, e.g. in the school library, so that the computer is semi-integrated into the classroom experience and children become more comfortable around it.
10. Try to have scheduled times for the students to access the computer outside of class time and prepare a roster so that each group has access and can get through the exercises that you set.
11. Give the students specific exercises to be completed and make use of the parent and teacher tracking options in the software to monitor their progress. Or simply have a chart on the wall and ask each group to mark the exercises they have completed. Then you can monitor their progress.
12. Train parents who are willing to supervise on weekends and outside, or even during, school hours. This will increase the amount of time that the computers are available to the students and encourage parents and children.
13. Train other teachers so that the students use the computers in several subject areas and get more exposure. This will ultimately benefit the whole school as and when it acquires more computers.
14. Do not attempt to integrate the computers into the curriculum for more than two classes (say 50-60 students in total) – a whole school of several hundred students cannot be dependent on 1-2 computers for other than enrichment over and above the normal lessons. However...

15. If you have time outside school hours, allocate specific tuition times that other students can sign-up for, provided that they have organised themselves into groups of 3-4. Make access competitive and in this way you will hold their interest and they will keep coming back even though access is limited.

*Now let's look at a couple of lessons from the PIMD syllabus and see how these strategies could be used :*

Grade 1 – Unit 1 – Lesson 1B

<b>Lesson 1 Part B</b>		
<b>Introduction</b>	<b>Core Lesson</b>	<b>Recapitulation</b>
Show children the switch to turn the computer on/off.	Modeling turning the computer on. The children then practice turning the computer on. Once they've turned it on they can turn it off.	Children repeat instructions and how to know when computer is ready to use and when it is finally shut down.

For this lesson, strategies 5 and 6 would be the most useful :

- Select group leaders and demonstrate how to start the computer and how to shutdown (refer strategy 5). Do this during a lunch break.
- Then prepare a chart showing the computer and highlighting the on/off button (refer strategy 6). If possible also prepare simple charts of what the children will see on the screen when the computer has powered on and is ready for use, and charts showing where to click in order to shut-down.
- Take the whole class through these charts in one lesson.
- Then allow each group a turn to practice on the computer at their scheduled time (refer strategy 10).
- Make sure that each group marks on the roster that they have completed the task (refer strategy 11).

<b>Lesson 3</b>		
<b>Introduction</b>	<b>Core Lesson</b>	<b>Recapitulation</b>
<p>Even though the students do not know the alphabet they can recognise letters and match them to the keyboard.</p> <p>Teacher prepares template on each computer with “My name is .....” at the top of the page.</p> <p>Teacher models typing in his/her name, using terms “click on”, “right”, “left” and “move”.</p>	<p>Students type in their name on the computer, copying from Lesson 2 (where they learn “what is your name?” and “my name is ...” as well as how their name is written in English and Tamil)</p>	<p>Print out each student's copy of “My name is . . . .” and paste into workbook.</p> <p>Alternatively the teacher saves each students work.</p>

For this lesson, strategies 5, 6 and 7 would be most useful :

- First prepare the template on the computer with one row per student (refer strategy 7).  
Make sure that the template is open in MS-Word before the lesson commences.
- Select group leaders and demonstrate the exercise including mouse and keyboard actions (refer strategy 5). Do this during a lunch break.
- Then prepare a chart just like the template and fill in one row to demonstrate to the whole class how to use the template (refer strategy 6).
- Then allow each group a turn to do the exercise on the computer (refer strategy 10). Ask them to leave the template / document file open so that you can save and print later.
- Prepare some reusable cardboard keyboards. Use these to take the whole class through the typing part of the exercise so that they are better prepared when they go to the computer.
- Make sure that each group marks on the roster that they have completed the task (refer strategy 11).
- Randomly select students to describe in words (mother tongue) to the whole class exactly what they did, that is, every action including moving the cursor to a new row, clicking the mouse, typing.

Lesson 3		
Introduction	Core Lesson	Recapitulation
Teacher instructs students to search through clipart (or Boardmaker, KidPix) on the computer to find pictures of activities that they did during their holidays. Short stories can be made using the pictures.	Students create their stories using computer tools.	Teacher will need to prompt students with the right English to describe their activities.

This lesson will draw on almost all the strategies :

- Choose the software program that you wish to use. All computers will have Clipart which is a standard feature of Microsoft PowerPoint. However you may find KidPix easier for students to use. Boardmaker is primarily a tool for teachers but could be used also.
- Train one member from each group (refer strategy 1, 5) in how to use the software (including saving files) and allow one or two practice sessions (they can work in pairs). This will need to be done outside class time.
- Prepare simple charts to hang near the computer showing basic operations for the software – perhaps the above students could prepare these (refer strategy 8).
- In the class, ask each group to talk about what they did during their holidays and to choose one activity for the computer exercise. Ask them to think about the pictures they will need to illustrate this activity. You might ask each group to tell the class about the activity and the pictures they need.
- Each group then uses their scheduled computer time to put together their story in pictures (refer strategy 10).
- You may be able to do the above three activities in parallel (refer strategy 3, 12) – set the groups working on their story while you train others to use the software. Ask groups to describe their story while one group is at the computer creating their story. (Refer strategy 9)
- You will need to check the work on the computers to provide feedback to the students as this is a more complex exercise.

*PIMD is a non-government organisation working in the education and ICT fields in developing countries, helping to build sustainable village communities. Contact [info@microdevpartners.org](mailto:info@microdevpartners.org) for further information*