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# Making Cooperative Learning Work for Teaching and Learning

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## Abstract

*This article is a continuation of the previous article entitled, "Let's have Cooperative Learning for Lessons!" In this article, how to plan, organize and conduct productive cooperative learning in the primary social studies classroom will be featured. Suggestions on managing challenging student behaviours for successful cooperative learning and the assessment and reflection of such lessons are also highlighted.*

## Planning Cooperative Learning Lessons

Cooperative learning refers to a set of instructional modes that requires students to work and interact together in small groups for the promotion of individual and group members' learning. It is useful in the promotion of academic achievement and the development of thinking and interpersonal skills and dispositions such as appreciation of individual differences. When planning a cooperative learning lesson, we need to take into consideration the content, lesson objectives, concepts and generalizations, unit questions, students' prior knowledge or experience with the topic, task(s), cooperative learning models to adopt or adapt, and resources, time and space available. These considerations are generally no different from the planning considerations for other non-cooperative learning lessons. But the big difference is that for cooperative learning lessons, cooperative learning

structures or models are integrated into the lessons.

For primary social studies teachers attempting to incorporate cooperative learning into their lessons for the first time, it is best to select a familiar lesson or topic so that they can focus on mastering the cooperative learning model and process and not the lesson content (Abrami, Chambers, Poulsen, De Simone, D' Appolonia & Howden, 1995). Before choosing the cooperative learning model, it would serve them well to ask the question, "Would group work help my students achieve the academic goals and develop particular social skills?" If the answer is yes, then consider the appropriate type of structure or model to use. Alternatively, they can modify an existing structure or model. Refer to Strategy Example 1 in the article entitled, "Let's Have Cooperative Learning for Lessons!" They should start with simple informal cooperative learning structures such as think-pair share, round robin or numbered-heads-together before moving to more complex models like the Jigsaw, Group Investigation and Structured Academic Controversy which require more planning, are more demanding and are more suited for upper primary students. When complex models are adopted, it is important to ensure that the content chosen is substantial and challenging to offer students scope for self-directed, independent and constructive learning with their peers.

When designing the cooperative

learning tasks, it is important for teachers to build in the cooperative learning elements in them. For positive interdependence, the following questions can be asked: "How can I ensure active student participation?", "What are the common group goals?", "What task and/or process roles will there be for group members to work together?", "Will I use group rewards?", "Will my students need to share the resources?" and "How can I help my students see the benefits of cooperation?" (Abrami et al, 1995; ASCD, 1990) For individual accountability, questions which can be asked include: "How can I avoid free riders and domineering students?", "How can I ensure that every student learns?", "Do I use individual quiz or homework or random selection of one group member for grading?" and "How do I encourage my students to assist other members to learn and contribute their share of work?" (Abrami et al, 1995; ASCD, 1990) For social skills, questions which can be asked are: "How can I select appropriate social skills for student development?", "How will I develop my students' awareness of these skills?" and "What behaviours do I expect to see my students engage in during group work?" (Abrami et al, 1995; ASCD, 1990) In addition, defining the criteria for successful task completion during planning is important for students to learn about self-evaluation of their learning. Ensuring that groups have adequate resources as well as time for grouping, giving of instructions, carrying out task and group processing are also crucial.

### **Organising Cooperative Learning Lessons**

Teachers also need to be thoughtful about group organization to ensure student success in academic studies and the development of social skills. The aspects of organizational decisions to consider are

group composition, group size, length of group life, room arrangement and role allocation.

#### **a) *Group Composition***

It is best to have teacher-selected groups initially until students are capable of collaboration with one another. The aim is to form heterogeneous groups in terms of ability, ethnicity, gender, interest or learning style. One way is to have random assignment which can be done by giving students pieces of paper containing the names of countries or capitals and getting them to look for the correct match of countries or capitals and pair up. The other way is through stratified random assignment whereby students are banded according to their abilities and selected in such a way so that each group will have a mix of high, average and low ability students (Kagan, 1994).

#### **b) *Group Size***

How big the group should be depends on students' age and experience with group work and the nature of the task - whether it is a formal or an informal cooperative learning group or a cooperative base group task (Chambers, Patten, Schaeff & Mau, 1996; Jacobs, Gan & Ball, 1995). Generally, for students in the lower primary, it is best to start them off in pair work because of their limited interpersonal skills. Once they have gained the necessary experience of interacting with one another and have developed the skills and maturity to handle group dynamics, they can proceed to bigger groups at higher grade levels. Generally, the smaller the group, the more opportunity there is for all members to talk and contribute as none will be left out and decision-making can be hastened. Large groups which are more suitable for older students are advantageous because more

hands and heads make light work and more members can contribute a wider range of ideas, expertise or skills and knowledge to the group work. Any group that is bigger than six students can be problematic as there is a greater likelihood of some students being free riders and creating work problems. The best is to have four students to a group as they can work in pairs first before interacting with one another in foursome (Kagan, 1994).

Johnson, Johnson and Holubec (1998) have suggested decreasing group size based on the following criteria: if the instructional time is short, if there are abundant instructional resources for sharing, if group cohesion and social support need to be strengthened or if groups are diagnosed lacking in social skills.

**c) Length of Group Life**

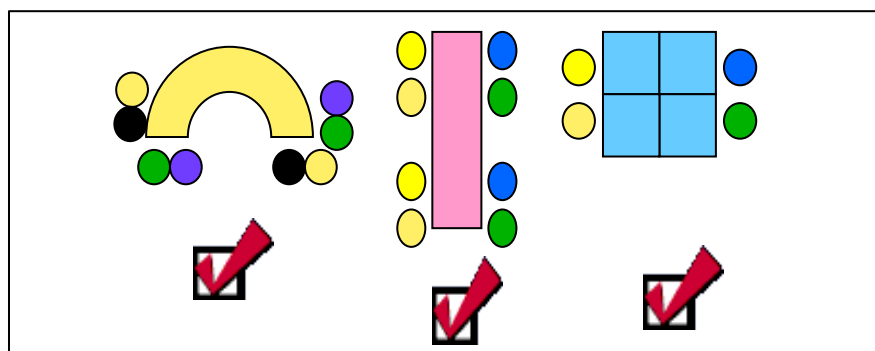
The nature of the task (Johnson, Johnson & Holubec, 1992) is an influencing factor for the length of group life. Generally, the group duration for informal cooperative learning tasks is short because these tasks are simple. But the group duration for formal cooperative learning tasks can be longer because of their more complex and demanding nature. In that case, it is advisable to keep the groups long enough for about four to eight weeks so that the members are comfortable

and bond with each other to form a group identity and they have the chance to overcome difficulties which they face as they work together (Jacobs et al, 1995). Groups should not be kept together if cliques form (Jacobs et al, 1995). Disbanding the groups if they do not work well is not advisable as students need to learn how to deal with conflicts and disagreements with their teammates. Teachers can use teambuilding activities to bond the groups (Kagan, 1994). Ideally during the school year, students in the class should have a chance to work with every other student in cooperative group tasks (Zarrillo, 2008).

**d) Room Arrangement**

For informal cooperative learning activities, there is no need to move desks or chairs. For longer activities, students can shift their chairs and meet around a desk. Alternatively, students can sit in groups on the floor for their discussions. To accommodate formal cooperative learning activities, the table arrangements in Figure 1 can be made. Such arrangements enable students to huddle close to one another to promote face-to-face interaction, a cooperative learning element, and to discuss at close range to keep the noise level down. Teachers can also have eye contact with all students in such arrangements (Kagan, 1994).

**Figure 1: Different Types of Room Arrangement**



e) **Role Allocation**

Roles need to be clearly defined and every student needs to understand exactly what he or she is expected to do (Zarrillo, 2008). Task roles refer to roles associated with the specific tasks derived from the main task that have to be done in order for the main task to be completed successfully. For example, if the main task for the Primary 3 social studies unit on housing in Singapore is for the group to plan a housing estate that serves the needs of the residents, then the specific task roles would include researchers, planners, scribes and presenters. Everyone in the group will research to find out residents' needs and the kinds of facilities and living environment that people want, and all will brainstorm, plan and design the housing estate together. The scribe and presenters amongst them will additionally need to take down the major decisions made by the group and to present on the group's behalf respectively. Unlike task roles, process roles are roles that ensure the smooth functioning of the group. These include time-keeper, encourager, quiet captain, resource manager and task manager.

**Conducting Cooperative Learning Lessons**

The successful implementation of cooperative learning lessons hinges on equipping students with the necessary skills for social interaction and management of challenging behaviours within groups. Some of the ways to manage students include establishing group norms and implementing team and class building activities, using the quiet signal, the 6-inch or 15-cm voice, Team-Then-Teacher rule and sponge activities.

a) **Teaching Social Skills**

Teachers need to understand that putting students into groups cannot guarantee group success. What is often needed is the teaching of social skills as they are the key to any successful group endeavour (Johnson et al, 1998). Teachers need to know what social skills to teach and how to teach them. The steps for teaching social skills are: help students see the need for learning social skills, define the skills, set up practice, allow time for group processing and encourage practice. Four levels of social skills have been identified for cooperative learning. They are forming skills, functioning skills, formulating skills and fermenting skills (Johnson et al, 1998) as shown in Figure 2.

**Figure 2: Social Skills for Group Functioning**

<p><b>Forming skills</b> are targeted towards group organization and norm establishment for appropriate group behaviour.</p>	<p><b>Functioning skills</b> are for managing groups' efforts in task completion and maintenance of effective working relationships amongst group members.</p>
<ul style="list-style-type: none"> <li>• Getting into groups efficiently without making noise</li> <li>• Greeting others</li> <li>• Addressing each other by name</li> <li>• Introducing self</li> <li>• Looking at the speaker</li> <li>• Eliminating put downs</li> <li>• Staying with the group</li> </ul>	<ul style="list-style-type: none"> <li>• Giving and responding to praise</li> <li>• Asking for help or clarifications and giving help or clarifications</li> <li>• Giving and accepting apologies</li> <li>• Encouraging others to participate and responding to encouragement to participate</li> <li>• Asking questions and responding to questions</li> <li>• Saying no and accepting no</li> </ul>

<ul style="list-style-type: none"> <li>• Saying good bye</li> </ul>	<ul style="list-style-type: none"> <li>• Giving instructions and following instructions</li> <li>• Paraphrasing</li> <li>• Sharing ideas and opinions</li> <li>• Asking for facts and reasoning</li> </ul>
<p><b>Formulating skills</b> are aimed at developing understanding and reasoning and maximizing mastery and retention.</p>	<p><b>Fermenting skills</b> help students to reconceptualise their learning, provide rationale for their conclusions, think divergently and argue for alternative solutions or decisions.</p>
<ul style="list-style-type: none"> <li>• Seeking elaboration</li> <li>• Seeking accuracy</li> <li>• Checking for understanding</li> <li>• Summarising aloud</li> <li>• Suggesting ways of remembering</li> <li>• Asking others to plan aloud</li> </ul>	<ul style="list-style-type: none"> <li>• Criticising ideas not people</li> <li>• Synthesising ideas into a single position</li> <li>• Asking for justification</li> <li>• Extending answers</li> <li>• Probing by asking questions</li> <li>• Generating additional answers</li> </ul>

Social skills can be taught through role play or using the T-chart. Getting students to role play appropriate social behaviours followed by a discussion to reinforce them can enhance group success. The T-chart, which contains two columns - what the social skill *looks like* and what it *sounds like*, is a useful device for teachers

to use when they brainstorm with their students on the appropriate behaviours associated with a particular social skill. The chart can be put up in the classroom and act as a reminder to students during group work. An example of a T-chart is shown in Figure 3 below.

**Figure 3: T-chart on Encouraging Participation**

<i>Social skill: Encouraging Participation</i>	
<u>Looks Like</u>	<u>Sounds Like</u>
Smiles	What is your idea?
Eye contact	Good idea!
Thumbs up	That's interesting!
A pat on the back	Ingenious!

b) ***Managing Groups***

i) ***Group Norms and Team and Class Building***

There are many ways to manage group work. One way is to establish group norms with the class. Teachers can work together with their students to create group and class behavioural guidelines and these can be pasted at prominent spots in the classroom

for easy reference and reminders. In addition, engaging students in class and team building activities can foster cohesion and mutual commitment to learning (Kagan, 1994).

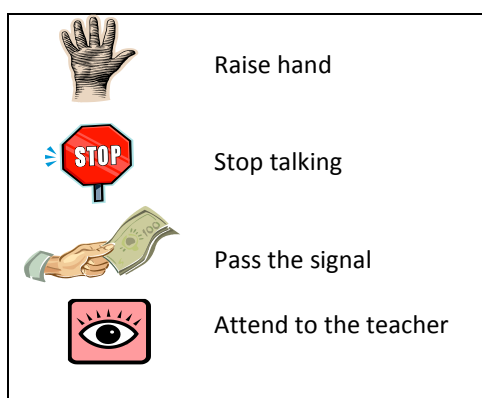
ii) ***The Quiet Signal***

One way to gain the class's attention is to use the quiet signal (see Figure 4). To make the signal, the teacher raises his/her right hand to signal for the class to stop

their work and pay attention to him/her. Students who see the raised hand will stop talking, raise their right hands, pass the signal to their friends by nudging them and attend to the teacher. The teacher will only begin to talk when everyone's right hand is raised. Other ways of getting students' attention are using a bell or a timer,

clapping twice or more or switching off the lights before switching them on again (Kagan, 1994). Whatever the way chosen to get the students' attention, it is important that the teacher repeats the steps a few times for students to become familiar with the strategy.

**Figure 4: The Quiet Signal**



iii) **6-inch or 15-cm Voice**

This is a technique to get students to lower their voices and speak softly during group activity (Ng & Lee, 1996).

iv) **Team Then Teacher or TTT Rule**

If a member has a question, he/she will ask his/her group members first. This is to train students to rely on their group members as a valuable source of help. This will also free teachers from having to attend to every query when the groups have the answers themselves. The freed-up time can be then used by teachers to assist those groups with genuine learning difficulties. If the group is unable to answer the question, then all the group members will raise their hands to consult the teacher (Ng & Lee, 1996).

v) **Sponge Activities**

These are short activities that are related to the main task or topic which

teachers can ask groups that finish their work first to do. These activities soak up the extra time between the first and last group to finish. Examples of sponge activities for the Primary 3 housing unit are getting students to read a short story on Lim Kim San (also known as Mr HDB) and take a quiz. But before administering the sponge activities, teachers should check that students have really understood and finished their work. Sometimes, instead of sponge activities, teachers can request the fast workers to assist other groups who have yet to complete their work (Curran, 1998).

vi) **Helping Students with Poor Social Skills**

Sometimes, groups do not make much work progress because of certain students with behavioural problems that interfere with the learning of others in the groups. The following are some challenges that may be encountered when managing groupwork and some possible solutions.

### *Domineering students*

To deal with students who dominate group discussions, one solution is to use talking chips. These could be anything such as coloured sticks or objects like pencils or small toys. Each group member is given the same number of talking chips. Each time, someone in the group contributes an idea, he/she is to give up one talking chip and place it at the centre of the table. When the student has used all his/her talking chips, that student is not allowed to talk again until all his/her group members have used up all their talking chips. This will ensure that all members have the same number of opportunities to talk (Curran, 1998; Jacobs, Power & Loh, 2002). Alternatively, the gatekeeper (who opens the gate for students to speak or not to speak) can step in and say, "You have contributed a great deal. Can we hear from someone else?"

### *Free riders/Do it all students*

Sometimes, groupwork raises the issues of students who avoid doing their part in the group task or those who do the entire work for their groups. In such instances, students may resent those who do not work. For those students who are left out of the task, they may feel useless, bored or frustrated while those who do the bulk of the work may feel resentful when the group gets the credit for the work done mostly by one person. In all these cases, the group morale is affected and cooperation is not promoted at all. To deal with such problems, teachers should prepare task sheets which list all the tasks needed to be completed for the group activity. Students can sign up for the same number of jobs on the group task sheets. In this way, there is a fair distribution of jobs for everyone and all members will know who is responsible for each task (Curran, 1998).

### *Disruptive students*

There are two ways to deal with disruptive students (Curran, 1998). One way is to talk to the student and help him/her realize that social skills are needed to ensure successful completion of the group task and to get along with others. The teacher and group will help to monitor the disruptive child's progress. Another way is to put the disruptive student in a group which has very strong social skills and nurturing personalities. Hopefully, the disruptive student will be positively influenced by the good role models. Only assign the problematic student to another group if all things fail. It is advisable not to put more than one disruptive student in a group or it would be impossible for the group to function at all.

### *Loud talkers*

Assign one student to be the quiet captain for the group and his/her role is to ensure that all the members speak in 6-inch or 15-cm voices so that they would not disturb other groups. Alternatively, assign the loud talker the role of the quiet captain so that he/she is careful about raising his/her voice unnecessarily (Jacobs et al, 2002).

### *Shy and passive students*

To encourage the shy and passive student to speak, the role of gatekeeper can be assigned to one of the group members. The person's role is to open the gate for students who are shy and not contributing to the discussion. The gatekeeper can say, "I see that you are deep in thought. Would you like to share your thoughts with us?" Another way is to implement team building activities to get the shy student to bond with the group (Jacobs et al, 2002).



### **Assessing Student Learning in Cooperative Learning Lessons**

Assessment is part of learning and should be on-going. It should not be confined to after the lesson is completed. During the lesson, teachers can monitor both the academic learning and social skills. Questions that teachers can ask themselves when planning cooperative learning lessons are: “What academic and social skills objectives should I assess?”, “What multiple indicators should I use to assess academic learning? Do I use a combination of teacher questioning, quiz test items, individual work, group work and performance tasks to ensure the holistic assessment of academic learning?”, “What kind of assessment should I use – should it be self, peer and/or teacher assessment?”, “What proportion of the individual grade is based on group performance or work as the intentions are to promote both individual accountability and positive interdependence?”, “How should I monitor and assist groups in achieving the academic objectives?”, “What social skills should I monitor in terms of the specific words/phrases used or actions taken?”, “How should the observations be structured? Should I use a checklist for observation?” and “How should I have students reflect on their interpersonal and academic development?” (Abrami et al, 1995; ASCD, 1990)

Teachers can monitor group work by circulating through the classroom and observing and recording student behaviour on a piece of paper or using a checklist. They can provide immediate feedback to their groups on their behaviours and single out groups with exemplary behaviors and praise them with the intention of using them as positive role models for the rest of the class. Sometimes, teachers may need to re-teach academic objectives if they find that their students are struggling with the

content or have misconceptions or have queries about the task. Re-teaching can be targeted at the groups with problems or at the entire class (ASCD, 1990). During monitoring, teachers can remind their students to practise the TTT rule so that they are freed to attend to genuine cases of learning difficulties.

Group processing is one of the cooperative learning elements and is therefore an important aspect of the cooperative learning lesson. Involving students in group processing can provide them with feedback on how well they have worked together in achieving the task goals and how they can improve. One question teachers can ask when planning cooperative learning lessons is “During group processing, how should feedback be given to students and how should the analysis be done?” Group processing can be done in various ways. One way is for teachers to provide feedback to the class and discuss with the class on how to improve the next time. Another way is to appoint an observer from each group to observe and record the verbal and/or physical behaviours exhibited during the group work and report the findings to the individual groups and the analysis is done within the groups. Alternatively, the observers can report the findings to the whole class and the analysis can be done with the whole class (ASCD, 1990). Still other ways include teachers asking the class for a quick group processing by doing a thumbs-up, thumbs-down or so-so in situations of time constraint. For lower primary, teachers can ask students to colour happy or sad faces as indicators of their group behaviours and write a sentence on how they can improve the next time.

### **Reflecting on Cooperative Learning Lessons**

Finally, to improve the teaching and learning of cooperative learning, teachers need to reflect on their lessons. Questions that teachers can ask in reflection for action (Schon, 1983) include, "Were the lesson objectives achieved?", "Was/were the cooperative task(s) appropriate?", "Were the students sufficiently prepared for the task(s)?", "Were the resources adequate, relevant and appropriate?", "Was the grouping effective?", "Did all the group members participate and contribute to the task completion?", "Did the group members help each other accomplish the learning objectives?", "Were the individual responsibilities clearly defined?", "Did each student successfully complete his/her task and learn the material?", "Were there any free-riders or domineering students?", "Did the students engage in the anticipated social behaviours?", "What social skills need to be improved?", "Did I provide clear instructions or model the tasks clearly?", "Were the students on task?", "How did I monitor social skill development?", "Did I intervene - why, with whom and how?", "Were the groups productive?", "Did students reflect on their own learning?", "What sort of feedback did I give to improve their learning?", "Overall, which aspects of the cooperative tasks were particularly successful?", "What were the problem areas?", "How can I improve?" and "What should I bear in mind when designing cooperative learning tasks in future?" (Abrami et al, 1995)

### **Conclusion**

To ensure that cooperative learning really works, a lot of thought is needed for the planning, organizing, implementing, assessing and reflecting on the lessons. It takes courage to conduct cooperative

learning group work where the power of control over learning is given to students as they become self-directed, self-dependent and constructive learners. Teachers need to be prepared to deal with the management difficulties that arise from cooperative group work. But with careful planning, perseverance and patience, successful cooperative learning is not impossible and students who are given ample opportunities to work with others will be assets to the future workforce which places importance on teamwork and collaboration.

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