Promoting Cooperative Learning at Primary School

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Abstract

This article describes a four-step programme designed to promote the use of cooperative learning among teachers at a Singapore primary school. In the initial step in the programme, teachers at the school were asked if they would like to participate in the programme. Six came forward. In the second step, an outside consultant did a brief workshop for six English teachers at the school. Next, each teacher worked with the consultant in a cycle of:

(a) planning a lesson that included cooperative learning, with feedback from the consultant,

(b) teaching that lesson with the consultant observing and providing feedback, and

(c) planning another lesson in the same manner.

This cycle was repeated for five lessons per teacher. The fourth step in the programme involved the teachers and the consultant in doing a four-hour workshop on cooperative learning for all the teachers in the school. The programme was initiated and supervised by head of the school's English Department.

Introduction

Change in education—be it general education, second language, or foreign language—is a difficult process (Freeman, 1989). Many times a worthy innovation is introduced one year via workshops, courses and other means, but the next year no trace of the innovation is to be found, except possibly some old workshop handouts gathering dust in a file somewhere. The literature on change in education and elsewhere suggests many reasons why change efforts often fail. These reasons include:

1. The change is not integrated into the broader system of education in the school and beyond (Senge, 2000).
2. Teachers' and other key stakeholders' beliefs are not congruent with the philosophy of education embodied in the change (Fullan, Bennett, & Rolheiser-Bennett, 1990; Freeman & Richards, 1996; Sharan, 2002).
3. The change is attempted in a top-down manner, with teachers told what to do, rather than being involved in the decision-making (Farrell, 1999; Sharan, Shachar, & Levine, 1999; Wheatley, 1999). [-1-]
4. There is a wide gap between the theory espoused in the change and the practical steps that need to be taken to implement the change (Farrell, 2000; Kagan, 1994).
5. Ongoing support is not available for teachers (Farrell, 2003; Johnson & Johnson, 1994.)

The change programme described in this article sought in particular to address reasons 3, 4, and 5. Each of these reasons is briefly expanded on below.

Top-down change

ESL/EFL language teachers, and other teachers as well, are too often treated by ministries of education and administrators just as teachers have traditionally treated students. In other words, decisions about how and what to teach are made for teachers by those above them in the educational hierarchy, just as teachers often decide for students what they will study and how they will study it (Sharan, Shachar, & Levine, 1999). ESL/EFL teachers are told what to do, not asked what they think would be best to do. They are seen as a collection of loosely-coupled individuals each independently responsible for their own work. A decision to implement a change is made at the top. Because teachers, like students, too often have not been involved in the decision, they feel little ownership of the change and have little stake in the success of the change. In reality, however, ESL/EFL teachers are very much involved in deciding what changes to implement, whether or not those above them in the educational hierarchy formally acknowledge this. Indeed, after the classroom door closes, many a top-down edict for change flies out the window.

Many of the changes taking place in ESL/EFL education today involve changing the relationship between teachers and students, with teachers expanding their roles from always being the "sage on a stage" lecturing to students and, instead, also being facilitators, as students work with their peers to play a more responsible, decision-making role in their own learning. If we are to "walk our talk," that is, practice what we preach, we must pay attention to the parallelism between the manner in which ESL/EFL teachers are treated by those above them in the educational hierarchy and they way we hope teachers will treat those below them in that same hierarchy. In other words, it may not be realistic to ask teachers to give more responsibility to their students when they themselves are given so little. This change toward giving more responsibility to teachers should begin in their pre-service education and continue throughout their careers (Freeman & Richards, 1996).

The gap between theory and practice

After a workshop for ESL/EFL teachers, it is common to hear the lament: "That sounds great in theory, but it will never work in my classroom." Each school, each class, each student, each day has its own particularity. No workshop facilitator can possibly present teachers with ready-made lessons for every class and every occasion. Even when the facilitator does present ready-made lessons, we have what Kagan (downloaded 15 February 2002 from http://www.kagancooplearn.com/Training/Main.html) calls "the replacement cycle," in which teachers use up those ready-made lessons, and then find it too time-consuming to create more, especially when they are working alone. Thus, when the next innovation comes along, ESL/EFL teachers leave the last one behind and replace it with the new one. One innovation replaces the last one; change is not sustained.

Lack of ongoing support

As the aphorism says, "Teachers teach in the way that they were taught." They have hundreds, probably thousands, of hours of experience with the old ways of teaching (Farrell, 1999; Lortie, 1975). It is unrealistic to expect a brief workshop or course to replace the safety of the known and familiar. Therefore, ongoing support is necessary to sustain change (Johnson & Johnson, 1994). [-2-]

However, too many ESL/EFL change efforts are characterized by "Hi-and-bye" workshops and courses in which a bright-eyed, enthusiastic lecturer comes in from who-knows-where and leads teachers through what is often an enlightening and useful collection of ideas and activities, and at the end says, "It's been wonderful working with you. I've learned so much from you. All the best in your teaching. Bye-bye!" The lecturer then hops into (usually) his taxi and it's off to the airport for the next engagement. Even when the lecturer lives in the same city and offers to respond to email and phone communication, the offer is seldom taken up.

Cooperative Learning and Second Language Acquisition

The change effort described in this article focused on cooperative learning. Jacobs, Power, & Loh (2002, p. ix) define cooperative learning as "principles and techniques for helping students work together more effectively." A great deal of work has been done in the general area of the use of group activities in L2 instruction (Akcan, Lee, Ghaith, & Jacobs, 2003). Cooperative learning is a subset of that work. Various hypotheses and theories related to L2 acquisition support the use of cooperative learning. Four of these are discussed below.

The input hypothesis

The input hypothesis (Krashen & Terrell, 1983) states that we acquire a L2 as we comprehend meaning in that language in the form of written or spoken words. Thus, reading and listening provide input which our brains utilise to build language competence. Our knowledge advances as we understand input at the i+1 level, that is, input that is slightly above our current level of competence.

Three ways that cooperative learning helps increase the quantity of comprehensible input are:

1. Peers can provide each other with comprehensible input. Groupmates provide an extra input source, in addition to teachers and instructional materials. Also, this peer input is more likely to be accessed outside the classroom than is input from teachers and some kinds of instructional materials. Furthermore, peer input may be of a particularly high interest level.
2. Input from fellow learners is likely to be more comprehensible. Indeed, peers' lack of proficiency may be a blessing in disguise, as it renders them much less likely to use vocabulary that is not yet in students' receptive repertoires.
3. Peer groups may provide a more motivating, less anxiety-producing environment for language use, thus, increasing the chances that students will take in more input. This is in line with the affective filter hypothesis which, like the input hypothesis, is a component of the Monitor Model of L2 acquisition (Krashen, 1981). Speaking in front of only 1-3 fellow students may be a more comfortable experience compared to having to speak in front of the teacher and the entire class.

The interaction hypothesis

A second hypothesis about second language learning that fits with cooperative learning is the Interaction Hypothesis which states that language learners increase the quantity of comprehensible input they receive by interacting with their interlocutors (the people with whom they are speaking). This interaction can foster negotiating for meaning. Pica (1994, p. 494) defines negotiation for meaning as "the modification and restructuring of interaction that occurs when learners and their interlocutors anticipate, perceive, or experience difficulties in message comprehensibility." Second language students negotiate for meaning by such means as requesting repetition, explanation and clarification. Reid (1993) states that negotiating for meaning can also take place during peer feedback on student writing.

Cooperative learning may promote interaction in the following ways:

1. The literature on cooperative learning (e.g., Jacobs, Power, & Loh, 2002) recommends that students different from each other on one or more variables become groupmates. This heterogeneity increases the likelihood that negotiation for meaning will be necessary. Furthermore, teachers often use the variable of second language proficiency when creating heterogeneous groups. This means that more proficient students will be available to attempt to facilitate comprehension of their less proficient peers.
2. In cooperative learning, teachers can encourage more negotiation for meaning by allowing groups to try to sort out their own communication difficulties without teacher intervention, although teachers do stand ready to help if, after trying, groups remain deadlocked or confused. [-3-]
3. Cooperative learning activities provide a context in which students may be more likely to interact than in a whole class setting.
4. Long (1996) proposes that group activities can encourage students to interact with each other in a way that promotes a focus on form, that is, "to attend to language as object during a generally meaning-oriented activity" (p. 429). Such a focus on form can be encouraged when grammar constitutes at least one aspect of group tasks. Examples of making grammar an aspect of groups' tasks include:
    A. noticing tasks in which students analyze how a grammar point functions and formulate their own rule
    B. peer assessment in which students check each other's writing or speaking for particular grammar features, for example, in an English L2 class, the presence of plural -s.
5. The teaching of collaborative skills can play a crucial role in promoting peer interaction, because these skills provide students with strategies for effective interaction. Examples include collaborative skills that second language learners can use to repair communication breakdowns, such as asking for: repetition, slower speed of speaking, louder volume, and explanation of words. Collaborative skills also prove useful when students understand the input they have received but wish to disagree or ask for further

information, such as examples or applications.

The output hypothesis

The Output Hypothesis (Swain, 1985) proposes that in order for learners to increase their second language proficiency, they need to generate output, that is, produce language via speech or writing and receive feedback on the comprehensibility of their second language output. Input is necessary, but according to this hypothesis not sufficient for language learning. Output is seen to be another essential as it promotes fluency; pushes students to engage in syntactic processing of language (rather than only attending to meaning); gives students opportunities to test their hypotheses about what works and is acceptable in a particular language and affords students opportunities to receive feedback from others.

Cooperative learning, in contrast to teacher-fronted instruction, provides the possibility of a large increase in students' opportunities to create output, as many students are talking simultaneously, instead of one person, normally the teacher, doing all the talking (Long & Porter, 1985). In cooperative learning, group interaction is structured in an attempt to balance the opportunities that each student has for creating output. This contrasts with the situation often seen in group activities in which more student talk exists, but a relatively small group of students take most of the speaking turns. Furthermore, in my cooperative learning techniques, output is promoted by supplying each student with a unique resource—an information resource such as a part of a text, or physical resources, such as a particular color marker pen. For instance, in information gap tasks, each member of the group (a pair is also considered a group) has different information, and group members must share that information to successfully complete the task.

Another way of promoting output in cooperative learning groups is for each student to have a particular role to play in the group. A wide variety of roles exists depending on the task to be performed and the particular students who will be performing it. Examples of roles (Jacobs, Power, & Loh, 2002) include:

- Facilitator (also called Coach)—keeps the group on task and checks that everyone knows what the instructions are
- Time Keeper—keeps track of the time limits
- Language Leader—encourages everyone to use the second language to the extent previously agreed upon by the class and teacher
- Checker—checks to see that all group members have understood
- Encourager (also called Cheerleader)—encourages everyone to participate and leads the celebration of success
- Reporter—reports the group's work to other groups
- Questioner—asks questions to prompt the group to go more deeply and broadly into their task
- Paraphraser—restates what the previous speaker said to check comprehension
- Praiser—compliments groupmates for their ideas and their role in the group
- Conflict Creator—plays the role of devil's advocate bringing out opposing points of view and other possibilities
- Sound Hound—makes sure the noise level does not go too high
- Observer—notes how the group is working together

Sociocultural theory

The ideas of Vygotsky (1978) and related scholars have found many applications in second language pedagogy. Vygostky's sociocultural theory views humans as culturally and historically situated – not as isolated individuals. A key emphasis lies in the ways that we help each other learn, rather than learning on our own. This help can be called scaffolding (the support provided as buildings are being constructed). Scaffolding can be provided to second language students by teachers, more capable peers, and even by students at or below that student's current level. When teachers use cooperative learning, they seek to enable students to work towards groups in which scaffolding takes place because the members care about each other, have the skills to help one another (see the cooperative learning principle collaborative skills) and are involved in tasks they find meaningful (see the cooperative learning principle cooperation as a value).

Cooperative learning overlaps with Sociocultural Theory by attempting to build an environment that fosters mutual aid. As Newman and Holtzman (1993, p. 77) note:

> *Vygotsky's strategy was essentially a cooperative learning strategy. He created heterogeneous groups of children (he called them a collective), providing them not only with the opportunity but the need for cooperation and joint activity by giving them tasks that were beyond the developmental level of some, if not all, of them.*

With specific relation to second language learning, sociocultural theory views second language learning as taking place in specific contexts of language use, with second language learners availing themselves of the linguistic and non-linguistic tools at their disposal at they attempt to learn the second language and to learn about themselves. Speaking and writing are not just output in which information is exchanged between interlocutors. Instead, in groups, second language learners make use of themselves, their peers, artifacts, and other resources to mediate learning and to transform themselves (Pavlenko & Lantolf, 2001). In this way, the social, the symbolic, the physical, and the mental space combine, and all must be taken into consideration.

The Change Effort: Promoting the Use of Cooperative Learning

Cooperative learning was chosen for implementation at the school in order to increase the amount of interaction among students in English and other classes. Students, it was felt, were spending too much time listening to teachers or working alone to complete worksheets. By interacting with peers, it was hoped that students would increase their oral skills, help each other learn, and become less dependent on teachers.

The cooperative learning programme was initiated by the first author, the head of the English department (HOD) at the school, who had seen cooperative learning being used at another Singapore primary school and was impressed by how students were more active. After conferring with her own school's principal, vice-principal, and English teachers, she contacted the second author who had been conducting cooperative learning courses for the Staff Training Branch of the Singapore Ministry of Education and for individual schools. After discussing various options for introducing cooperative learning to the school, they decided on the following four-step programme.

Step 1—Recruiting the Teachers

Due to scheduling and financial constraints, it was decided that six teachers should initially take part in the programme. Rather than assigning teachers to the cooperative learning programme, the HOD asked for volunteers. This represented a more bottom-up approach to teacher education. In this way, teachers who were already predisposed to use group activities in their teaching took part in the programme, making it more likely that at least initially the programme would succeed. Too often, teachers are forced to take part in change efforts. While some who have been 'volunteered' may later become enthusiastic, the authors' experience is that too many of them enter the process with their minds closed to new ideas, hoping that that if they ignore the change steadfastly enough, it will eventually go away, as so many other changes have.

The teachers who volunteered had four years or less of teaching experience, except for one with 20 years. Henceforth, these six teachers will be referred to as the programme teachers. The grade levels they taught ranged from Primary 2 to Primary 5 (approximately ages 8-11). One of the programme teachers taught a special class of students who had fallen academically far behind their peers. The other teachers all taught regular classes. All six of the volunteers were female. The teaching staff at the school is more than 80% female. [-5-]

Step 2—Introducing Cooperative Learning

The second author conducted a two-hour workshop for the six programme teachers. This workshop highlighted:

1. The potential benefits of group activities in the teaching of English as well as other subjects. Participants were first asked to work together to suggest advantages that could be gained from using group activities. Then, the workshop leader discussed ten potential benefits, some of which had already been mentioned by the teachers. This was done to provide a clear rationale for the use of cooperative learning, as cooperative learning principles and techniques provide ways to maximize the benefits of group activities. The point is that cooperative learning represents much more than just putting students in groups and asking them to work together.
2. Four cooperative learning principles: simultaneous interaction (many students in the class—at least one per group—are speaking or writing at the same time, instead of only one student in the entire class), equal participation (participation within the groups is roughly equal), individual accountability (each student shares their ideas with groupmates), and positive interdependence (students feel mutually supportive toward groupmates as they go about a task designed to involve all group members) (Kagan, 1994).
3. Three cooperative learning techniques: Circle of Speakers, Write-Pair-Switch, and Numbered Heads Together (Jacobs, Power, & Loh, 2002).

These three techniques were chosen because they do not take much time to use in the classroom. Circle of Speakers (and its writing companion, Circle of Writers) are particularly easy for students new to cooperative learning because they can be done in pairs. Working in

pairs requires less intra-group coordination than does working in trios, foursomes or larger groups. The procedure for Circle of Speakers is:

- In response to a prompt from the teacher, a question in a course book, etc., #1 in the pair gives an idea or answers a question – #2 listens and gives feedback
- #2 gives another idea or answers another question—#1 listens and gives feedback
- #1 gives another idea or answers another question, etc., going around and around in the pair with each taking a turn
- The teacher calls a number, #1 or #2, and calls on some students with that number to report what their partner said.

The consultant led the programme teachers to analyze how each of the four cooperative learning principles is promoted by each of the techniques. Knowing these techniques makes lesson planning easier, because once teachers are familiar with a range of techniques, they can look at their syllabus and teaching materials and readily see where a particular cooperative learning technique will be applicable. In this way, the techniques help break the "replacement cycle" by making it less time-consuming for teachers to develop their own cooperative learning lessons (Kagan, 1994). Understanding the principles helps teachers grasp the thinking behind the techniques and empowers them to create their own techniques or modify existing ones.

The programme teachers had brought their course books and other teaching materials with them to the workshop. They looked at what they were teaching the following week and considered how they could use cooperative learning in their upcoming lessons. They received feedback on their plans from each other and the workshop facilitator. All six programme teachers taught English as one of their subjects, but because cooperative learning is appropriate to all subject areas, they were encouraged to consider using it in any subject area they taught. The idea was to avoid having cooperative learning being associated in teachers' mind with only one subject.

Another purpose of the initial workshop was to give teachers an opportunity to get to know the consultant. Many teachers feel uncomfortable being observed. Thus, it was important that they feel comfortable working with him, as he was going to be observing their teaching. The initial workshop also allowed teachers to have a voice in how the observation would be done and the overall scope of the programme. [-6-]

Step 3—Designing, Teaching and Observing the Lessons

At the workshop, the programme teachers exchanged email addresses with the consultant and made a tentative schedule for him to observe their classes using cooperative learning. A cycle was established in which:

1. Each programme teacher worked with the consultant, usually via email, to design a lesson that included cooperative learning. Most lessons lasted for 60 minutes. As cooperative learning combines well with other modes of learning, such as lecture by the teacher and individual work, the lessons that were designed seldom consisted solely of group activities.
2. The consultant came to the class with his laptop computer. He normally sat in a student's desk at the back of the room and took notes until the group work portion of the lesson began at which time the teacher and he circulated around the room monitoring and helping groups. Occasionally, he led the class. Other teachers besides the six were, with the class teacher's knowledge, invited to sit in on the lessons.
3. The consultant wrote up observation notes (see Appendix for an example) and sent them to the teacher concerned and the HOD via email. These notes contained a narrative of key events in the lesson, commentary on what had happened, and sometimes questions for consideration. The programme teachers and the HOD were encouraged to dialogue about the notes. This did take place occasionally, more often in person than via email.
4. The teacher and the consultant planned the next lesson. Sometimes, due to time constraints, the teacher planned the lesson on her own.

This cycle of planning, teaching and observation occurred for five lessons by each programme teacher.

Step 4—Workshop for the Entire School

The programme teachers worked with the consultant to do a four-hour cooperative learning workshop for the rest of the teachers at the school. In this way, the programme potentially benefited not just the six teachers, their students and the English Department, but all the teachers and students at the school. Furthermore, the workshop established the six teachers as the school's cooperative learning experts, to whom other teachers could later turn for support. Also, sharing as a group and with the help of the consultant made doing the workshop less threatening for the programme teachers.

The workshop began with a short list of websites for further information on cooperative learning, a definition of cooperative learning, and an explanation of an attention signal that teachers use when students are working in groups and the teacher wants to get their attention. The format for the main part of the workshop consisted of:

1. Explanation of the steps in various cooperative learning techniques that the programme teachers had used.
2. Analysis of how the technique promoted the cooperative learning principles of simultaneous interaction, equal participation, individual accountability, and positive interdependence.
3. The other teachers acting as students in the same cooperative learning lessons that the programme teachers had used with their students. The idea here was to enable to teachers to see how cooperative learning techniques had been applied to teaching students at their own school. In this way, cooperative learning was shown to be something that worked in teaching contexts similar to their own in classes led by teachers similar to themselves.
4. Special features of what had occurred in the particular lesson were highlighted. For instance, in one cooperative learning lesson, a programme teacher gave students a good deal of hands-on practice before asking them to work in their groups. Also, she paid careful attention to the composition of the groups, making sure to combine higher achieving students with lower achieving students so as to facilitate peer tutoring. [-7-]
5. Teachers were seated in groups of four with colleagues from the same grade level. After they had experienced a cooperative learning technique as students, they worked in their foursomes to plan a lesson with that cooperative learning technique that they could use the following week. The idea here was to encourage teachers to immediately put into practice what they were learning at the workshop. The teachers who were leading the workshop and the consultant walked around giving advice and encouragement to the groups. Sometimes, the groups of teachers participating in the workshop tried out their lessons with other groups of teachers acting as their students.
6. After six lessons had been presented in this manner, the consultant expanded on the definition of cooperative learning offered at the beginning of the workshop by talking about what cooperative learning is not:
    - Not new—Many teachers had been using groups in their teaching before they heard of cooperative learning. What cooperative learning represents is a pooling of the collective wisdom of thousands of teachers, researchers, and theorists.
    - Not all the time—While the research suggests that cooperative learning is associated with gains on many important educational outcomes, including achievement, there is still a place for other modes of learning.
    - Not a fad—Cooperative learning is here to stay because it works and because it links with other innovations in education, as mentioned earlier in this article.
    - Not just for students—Teachers too can benefit from working together, and by working with colleagues, teachers see the benefits of collaboration for themselves and provide a model of collaboration for their students.
    - Not just about small groups in the classroom—We want to expand the feeling of positive interdependence (that a gain for one is a gain for all) throughout the class, the school, the city, the country, and eventually throughout the world, so that students will feel positively linked with people and other species the world over.

The workshop concluded with the teachers and the consultant responding to questions and comments from the other teachers. The school's vice-principal delivered opening and closing remarks and sat in for parts of the workshop.

Conclusion

Was the programme successful? What were its strengths? How might it be done better in the future? The real test of the programme's success lies in whether the use of cooperative learning is sustained among the six teachers and expands to their colleagues. Due to various constraints, no formal evaluation of the programme's effectiveness was included in the programme's design. However, students of the programme teachers were reported to have been requesting that they use group activities and even applauding when it was announced that they would be doing a group activity that period. Also, the school vice-principal reported that after the workshop for the entire teaching staff, some teachers were incorporating what they had experienced at the workshop.

In the authors' opinion, strengths of the programme include that:

- Teachers actually implemented the change; they did not just attend training about the change.
- Teachers, not just an outsider, taught other teachers about the change when the programme teachers invited peers to watch them using cooperative learning and when they led a cooperative learning workshop for colleagues. In this manner, expertise is located within the school. Teachers come to see themselves and their peers as experts, rather than always looking outside the school for

expertise. [-8-]
- Teachers saw how the change could be successfully implemented in their school when either they personally used cooperative learning or they experienced how colleagues had used cooperative learning.
- The six teachers received ongoing help in their use of cooperative learning via assistance from the consultant who remains available via email and other means to them and the other teachers at their school.

Several ideas come to mind for how a similar programme might be better implemented in the future:

- Send observation notes to all participating teachers. This was done in some cases, but not consistently. In general, more could have been done so that the participating teachers learned from each other's experiences (Hargreaves, 2001), rather than engaging in dialogue mainly with the consultant.
- Promote greater dialogue between the programme teachers and the consultant. In the typical press of everyday events, time was not made to stop and discuss what had happened in the previous class (Gallwey, 2000). For instance, after the consultant sent his observation notes, there was not much back and forth, even when the notes contained questions. Similarly, there was no structure to encourage teacher reflection on the lesson. One small step towards this would have been to include more questions in the observation notes. Another idea would be to hold a debriefing session at the end of the school day. This was done in a similar programme at another school.
- Invite programme teachers to serve as peer mentors for other interested teachers. For instance, each of the programme teachers could play the role of consultant and replicate the interaction between consultant and teacher with six other teachers. This would be followed by another school sharing session. This cycle could be repeated for other education innovations or to focus on particular aspects of cooperative learning, for example, helping students develop their higher order thinking skills or encouraging smoother group functioning.
- Encourage programme teachers to continue learning about cooperative learning and related innovations in education. Their involvement as cooperative learning mentors (see previous point) offers one way of encouraging this.
- Collect data on the effects of the programme in terms of participating teachers, other teachers in the school, and students.
- Address the first in the list of reasons given near the beginning of the article for why change often is not sustained: the change is not integrated into the broader system of education in the school and beyond. This could involve such measures emphasizing the development and use of collaborative skills by students (Johnson & Johnson, 1994), selecting one cooperative learning technique each month that all teachers in the school would attempt to use (Kagan, 1994), and examining how grading, ranking and other school and societal practices might be fostering an atmosphere in which students view their peers more as competitors than as collaborators.

Change in ESL/EFL as well as other areas of education is a difficult process. Fortunately, we are learning more about it. The programme described in this article represented one attempt to implement some of our still very imperfect knowledge about the change process.

References

Akcan, S., Lee, I., Ghaith, G., & Jacobs, G. M. (2003). "Annotated bibliography of works on second language instruction related to cooperative learning specifically or more generally to small group activities." (available http://www.iasce.net/bibliography_gmj_1.htm)

Farrell, T. S. C. (1999). Teachers talking about teaching: Creating conditions for reflection. *TESL-EJ 4*(2), 1-16 (available http://writing.berkeley.edu/TESL-EJ/ej14/a1.html)

Farrell. T. S. C. (2000). English teacher development: Top-down, bottom-up or both? *Teaching & Learning, 21*(1), 27-35. [-9-]

Farrell, T. S. C. (2003). Learning to teach English language during the first year: Personal issues and challenges. *Teaching and Teacher Education 19*(1), 95-111.

Freeman, D. (1989). Teacher training, development, and decision making: A model of teaching and related strategies for language teacher education. *TESOL Quarterly, 23*, 27-45.

Freeman, D., & Richards, J. C. (Eds.). (1996). *Teacher learning in language teaching*. New York: Cambridge University Press.

Fullan, M. G., Bennett, B., & Rolheiser-Bennett, C. (1990). Linking classroom and school improvement. *Educational Leadership, 47*(8), 13-19.

Gallwey, W. T. (2000). *The inner game of work*. New York: Random House.

Hargreaves, A. (2001). Classrooms, colleagues, communities, and change: The sociology of teaching at the turn of the century. *Asia-Pacific Journal of Teacher Education, 4*(1), 101-129.

Jacobs, G. M., Power, M. A., & Loh, W. I. (2002). *The teacher's sourcebook for cooperative learning: Practical techniques, basic principles, and frequently asked questions.* Thousand Oaks, CA: Corwin Press.

Johnson, D. W., & Johnson, R. T. (1994). *Leading the cooperative school*. Edina, MN: Interaction Book Company.

Johnson, D. W., Johnson, R. T., & Stanne, M. B. (2000). "Cooperative learning methods: A meta-analysis." [Retrieved July, 2000]: http://www.clcrc.com/pages/cl-methods.html.

Kagan, S. (1994). *Cooperative learning*. San Clemente, CA: Kagan Publications.

Krashen, S. (1981). *Second language acquisition and second language learning*. Oxford: Pergamon Press.

Krashen, S. D., & Terrell, T. D. (1983). *The natural approach*. Oxford: Pergamon.

Liang, X., Mohan, B. A., & Early, M. (1998). Issues of cooperative learning in ESL classes: A literature review. *TESL Canada Journal*, 15(2), 13-23.

Long, M. H. (1996). The role of the linguistic environment in second language acquisition. In W. C. Ritchie, & T. K. Bhatia (Eds.), *Handbook of second language acquisition* (pp. 413-468). San Diego: Academic Press.

Long, M. H., & Porter, P. A. (1985). Group work, interlanguage talk, and second language acquisition. *TESOL Quarterly, 19*, 207-228.

Lortie, D. (1975). *Schoolteacher*. Chicago: University of Chicago Press.

Newman, F., & Holtzman, L. (1993). *Lev Vygotsky: Revolutionary scientist*. New York: Routledge.

Pavlenko, A., & Lantolf, J. P. (2001). Second language learning as participation and the (re)construction of selves. In J. P. Lantolf (Ed.), *Sociocultural theory and second language learning* (pp. 155Æ177). New York: Oxford University Press.

Pica, T. (1994). Research on negotiation: What does it reveal about second-language learning conditions, processes and outcomes? *Language Learning 44*, 493-527.

Reid, J. M. (1993). *Teaching ESL writing*. Englewood Cliffs, NJ: Regents/Prentice Hall.

Senge, P. (Ed.). (2000). *Schools that learn: A fieldbook for teachers, administrators, parents, and everyone who cares about education*. New York: Doubleday. [-10-]

Sharan, S., Shachar, H., & Levine, T. (1999). *The innovative school: Organization and instruction*. Westport, CT: Bergin & Garvey.

Sharan, Y. (2002). Essential features of a teacher education program for cooperative learning. *Asia Pacific Journal of Education, 22*, 68-74.

Slavin, R. E. (1995). *Cooperative learning: Theory, research, and practice* (2nd ed.). Englewood Cliffs, NJ: Prentice Hall.

Swain, M. (1985). Communicative competence: Some roles of comprehensible input and comprehensible output in its development. In S. Gass & C. Madden (Eds.), *Input in second language acquisition* (pp. 235-253). Rowley, MA: Newbury House.

Vygotsky, L.S. 1978. *Mind in society* (ed. by M. Cole, V. John-Steiner, S. Scribner, and E. Souberman). Cambridge, MA: Harvard University Press.

Wheatley, M. J. (1999). *Leadership and the new science: Discovering order in a chaotic world* (2nd ed.). San Francisco: Berrett-Koehler Publishers.

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Appendix

The consultant's notes on a lesson

[Information in square brackets has been inserted to help make the notes more comprehensible.]

Observation 8: 25 April 2001, P[primary] 5, Mrs Tan [not her real name] 2:00-3:00

The teacher started the lesson by reminding students that they should sit in their groups according to their numbers in the group. This makes it easy for the teacher to know who in each group has which number.

In this lesson, pupils were working in foursomes to answer comprehension questions [from their textbook]. They were using Write-Pair-Square.

[The steps in Write-Pair-Square are:

1. The teacher gives a question or task to students working in foursomes.
2. Each student works alone to write an answer.
3. In pairs, students explain their answer to their partner and try to agree on good answer(s).
4. The pairs in each foursome compare their answers and the thinking behind them.]

In each pair, pupil #1 answered question #1, pupil #2 answered question #2, etc. #1 was to tell #2 their answer and say where it came from, and #2 was to check the answer, etc. Pupils were to use their highlighters to mark where in the passage the answer came from. This was a nice touch to encourage students to provide explanations for their answers. Then, pairs reported to each other.

The highlight of the lesson for me was in the Square step when I heard one pupil ask another in the other pair to say where the answer came from. Then, he asked the pupil to speak a little louder. This is very nice because such questions (asking for an explanation of an answer) and requests (asking for repetition with louder volume) are important collaborative skills. As I walked around, I saw that it wasn't just the one boy doing this. Many pupils were asking either their partner or the other pair, "Where did you find your answer?" This was happening because Audrey had prepared them for this beforehand.

Another think I liked about the lesson was that the teacher had a sponge activity. [A sponge activity is an enrichment activity that 'soaks up' extra time when one or more groups have finished earlier than the other groups in the class.] She calls this TCS: Tense, Complete

sentences, Spelling and punctuation. If a pair had finished and were waiting for the other pair, they were to do TCS. One mistake we made when planning the lesson that meant TCS was very useful was that questions 1 and 2 were quite a bit easier than 3 and 4. Perhaps, we should have had pupils 1 and 2 do questions 1 and 3, and pupils 3 and 4 do questions 2 and 4.

The teacher gave students a time limit to encourage them to work more efficiently. This didn't seem to work too well, but perhaps I'm wrong. One thing that I sometimes do is: In addition to giving a time limit, I also appoint one group member to be the time keeper whose job is to keep track of the time and remind groupmates about how much time they have left. The thing with time limits is that we don't need to stick to them. If when the time is up, students are still working together well, we can just ignore the time limit or allot more time.

I liked how the teacher didn't wait for all the groups to finish the Square step before going over the answers. Even if we have a sponge activity—the teacher used one similar to [name deleted]'s, seeing how many words a group could make from the letters in the word environmental—we probably don't want to let things drag too long or we will lose momentum.

Write-Pair-Square, with explanations, is a versatile technique that can be used in any subject area. For instance, the same technique could be used with a set of mathematics problems. The type of explanation will differ according to the task.

I had a nice time observing one particularly smooth functioning group, the Sporty Kids. [Students had chosen names for their groups and designed table tents with their group's name and a drawing.] Of course, there's always room for improvement, but I really liked how everyone participated and how they had mastered the procedure. They also did a good job of not just blindly accepting other people's answers. You could see they were actively listening to and judging other people's responses.

Here's a question I have for you two [Audrey and Nora]: Does doing these activities (such as today's worksheet questions) using CL [cooperative learning] take longer than doing them without CL? I can see that explaining the techniques to students takes up time. Hopefully, that time will be lessened as pupils become more familiar with the techniques. For that reason, it's good to tell pupils the names of the techniques, as this teacher did.

Getting back to the time question, which is one of the most commonly mentioned objections to CL, my argument is that the key is not how long an activity takes but how much pupils learn. But, I do think CL can be as faster or even faster because, as the saying goes, "Many hands make light the work."

I liked how the teacher spent a couple minutes to comment to pupils on her own observations about how they had been working in groups. Another thing that could be done would be to ask pupils to discuss how well their groups are functioning and any suggestions they have improving the way their group is functioning.

Editor's Note:

Dashed numbers in square brackets indicate the end of each page for purposes of citation..