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Collaborative teaching in the context of an elementary school in Thailand: a case study

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Abstract

This paper reports on a case study conducted in the context of an elementary, private school in Ayutthaya, Thailand. The subjects of the study were three elementary teachers of grades 1-3. The study involved professional development workshop in collaborative teaching techniques, their implementation and a subsequent evaluation. The results of the study illustrate how a collaborative teaching model can serve as a tool assisting teachers in working together and developing skills to support each other. It appears possible for teachers to maintain their own teaching techniques when working in collaboration with other teachers as confirmed by two evaluations carried out by two head teachers. Also, the project shows that a collaborative teaching experience can be instrumental in changing teachers' professional beliefs and attitudes. Classroom observation records revealed that teachers were satisfied with each stage of their collaboration, from planning, implementation, through to evaluation.

Keywords: *Professional Development, Collaborative Teaching*

บทคัดย่อ

การวิจัยนี้รายงานกรณีศึกษาของครูระดับประถมศึกษา โรงเรียนเอกชนขนาดเล็ก จังหวัดพระนครศรีอยุธยา ประเทศไทย ครูผู้เข้าร่วมงานวิจัยที่ใช้ในการวิจัยครั้งนี้คือ ครูระดับประถมศึกษา 1-3 จำนวน 3 คน งานวิจัยประกอบด้วยการฝึกอบรมการปฏิบัติการสอนแบบร่วมมือ การปฏิบัติจริง และการประเมิน ผลการวิจัยพบว่า รูปแบบการสอนแบบร่วมมือสามารถนำมาใช้เป็นเครื่องมือช่วยเหลือครูผู้เข้าร่วมงานวิจัยให้ทำงานด้วยกันและมีการส่งเสริม สนับสนุนครูคู่ทีมในการจัดการเรียนการสอนซึ่งกันและกันได้ ผลการประเมินครูผู้เข้าร่วมงานวิจัยโดยหัวหน้าครูจำนวน 2 คน พบว่า ครูสามารถนำเทคนิควิธีการสอนแบบร่วมมือกับครูคู่ทีมที่ได้จากการอบรมมาใช้ปฏิบัติได้จริงในชั้นเรียน นอกจากนี้ จากการฝึกอบรมครูผู้เข้าร่วมงานวิจัยโดยใช้วิธีการสอนแบบร่วมมือนั้น สามารถให้ประสบการณ์ในการปรับเปลี่ยนความเชื่อและทัศนคติของครูถึงวิธีการสอนแบบร่วมมือได้ จากข้อมูลการประเมินพฤติกรรมการสอนของครูผู้เข้าร่วมงานวิจัย โดยใช้วิธีการสังเกตการเรียนการสอนพบว่า ครูมีความพึงพอใจในการทำงานร่วมกัน การวางแผน ตลอดจนการประเมิน ซึ่งสามารถนำไปปฏิบัติได้จริงในชั้นเรียน

คำสำคัญ: *การพัฒนาวิชาชีพครู, การสอนแบบร่วมมือ*

1. Introduction

1.1 Rationale and background to the study

Teacher quality and professional development have been recognized as two major concerns in Thailand's educational reform agenda. This involves many aspects of the teacher's role in developing children's effective learning processes. Teachers focus their attention on how they can facilitate their students' learning process with a child-centered approach to provide a meaningful learning experience. Teacher professional development programs therefore tend to aim at equipping teachers with effective teaching methods and abilities to create activities that challenge learning efforts as well as motivate learners to apply what they have learned in the classroom to the real life context (Office of Commercial Services, 2002).

A report of the Office of National Education Commission (ONEC) in 2012 points to the number of small-scale schools with enrolment not exceeding 300 at 25,327 or 79.82% of 31,424 schools under the Office of Basic Education, Thai Ministry of Education. There has been an acute need for good and practical professional development for teachers and school administrators. It should be noted that in-service training off the school area resulted in staff shortage, students not being attended by teachers and no substitute teaching. These limitations definitely have widened the existing gap in quality education among

different-scale schools. It is therefore recommended by ONEC to have in-service training or teacher professional development on the school site (ONEC, 2012).

Emphasis is necessary for Thai Education to be competitive in quality teacher production and professional development (ONEC, 2010). One Thai researcher, Siritharangsi (2010), reported considerations for the future of Thai education in developing human resources, society, and education as a driving force. Another ONEC Report in 2010 on brainstorming for development of the Thai Education for Quality of Children and Youth clearly signifies teacher professional development in curriculum and instruction. The goal of Thai Education Reform in the second decade aims at quality life-long learning in the framework of quality educational standards and learning (ONEC, 2011).

Elementary school teachers in particular seem to be in an acute need for varied teaching methods to handle young learners with a shorter attention span in various learning activities (Tileston, 2005). Erikson (1902-1994) reports that children aged 7-12 years are characterized by a sense of industry, where the child directs his plentiful energy to mastering a variety of new tasks and become concerned with how things are made and how they work (as cited in Smith, 2008). As a result, teachers are to familiarize themselves with a variety of teaching methods to be able to alternate between different strategies to suit the needs of their young learners.

One of the teaching methods frequently reported in the context of elementary schools is collaborative instruction or team-teaching (Hudson & Glomb, 1997; Lewis, 2000; Boyle, While, & Boyle, 2004; Fearon, 2008; Johnson, 2008; Smith, 2008). The essential elements and principles of collaborative teaching were reported in the work of Johnson and Johnson (1998) and Johnson (2008). These researchers defined the components of collaboration and cooperative learning as (1) positive interdependence (2) face-to-face interaction, (3) interpersonal skills, (4) monitoring time and methods, and (5) individual accountability.

1.2 Collaborative teaching

Collaborative teaching was introduced in schools as early as the 1970s; it served as a strategy for mainstreaming students who were identified as having a learning disability (Hudson & Glomb, 1997). Teacher collaboration was later conceptualized as an open communication between the participants who are sharing their responsibilities (Johnson, 2008). Collaboration was seen as an opportunity for teachers to engage in an authentic cooperation in order to co-design effective learning group activities for young learners (Boyle, While, & Boyle, 2004; Fearon, 2008; Johnson, 2008; Smith, 2008; Little & Hoel, 2011).

A number of studies show that collaborative, small workshops do foster teachers' awareness and strengthen their professional development which helps change what teachers teach or how they go about expanding their professional knowledge and skills (Johnson & Johnson, 1998; Office of Commercial Services, 2002; Boyle, While, & Boyle, 2004; Little & Hoel, 2011). Recent research has shown that when professional development activities are structured to support collaboration (Johnson, Johnson, & Stanne, 2000; Garderen, Hanuscin, Lee, & Kohn, 2012), this helps encourage teachers in helping each other by using strategies such as peer coaching, co-development of lesson plans and sharing of resources (Oakes & Lipton, 2003; Davies & Dunnill, 2008).

The conclusions of the abovementioned studies were positive about teachers' ability to learn from peers and field experts, illustrating that teachers were able and willing to engage new strategies and learn new things. It has been shown that collaborative lesson planning could lead to positive changes in instructional practices.

As for the implementation stages of collaborative teaching, many researchers agree on basic considerations when implementing collaborative teaching (Oakes & Lipton, 2003; Khamanee, 2010; Krol, Sleegers, Veenman, & Voeten, 2008). In addition, the website on Critical Elements for Collaboration (2008) lists a number of important elements to consider when training teachers in the use of the collaboration model. The Collaborative Teaching model developed for this study is outlined in Figure 1. This model is based on concepts of collaborative teaching introduced by the earlier researchers aforementioned; however, it carries only four components to facilitate training for Thai elementary school teachers in logical stages.

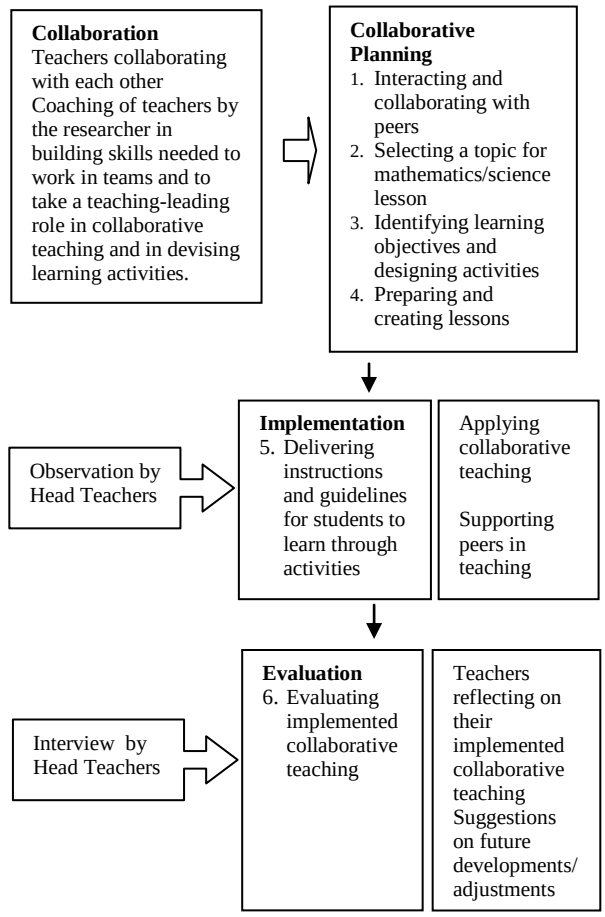

Figure 1 Model of Collaborative Teaching

1. **Collaborating:** Collaboration between teachers is introduced in a workshop conducted by the researcher to help teachers understand collaborative teaching and work with their partners in a team. Teachers are trained to take turn in a teaching-leading role in the framework of collaborative teaching as well as to devise learning activities.
2. **Teachers' Planning:** Teachers need to plan for and create lesson plans for actual practice in the classroom. Teachers are expected to interact and collaborate with other teachers as partners to plan their lessons.
3. **Implementation**: Teachers deliver the created lesson plans with clear-cut instructions and guidelines for students to learn through activities. During the implementation stage, two head teachers are to observe the teachers in action.
4. **Evaluation:** Evaluation is by the head teachers' observation, followed by the teachers who evaluate themselves and reflect on their implemented collaborative teaching.

1.3 Study site

The school in the study is a small private school of grades 1-6 located in the city of Ayutthaya, Thailand. The school has envisioned quality teaching delivered by local teachers to facilitate the learning process in a friendly, enjoyable and supportive manner. It should be noted that some teachers at this school still use traditional methods emphasizing memory and passive learning in a teacher-centered as well as content-centered mode.

As for professional development programs provided by the school, teachers have regular training on teaching methodology, learning activities and lesson plan preparation. However, from the researcher's observation, teachers seemed not to be enthusiastic to experiment with new teaching methods or learning tasks as trained in their professional development programs. Their lack of enthusiasm toward what they have learned from the provided training programs may have been due to the fact that they had to work individually, with limited resources, and without the benefit of feedback and support from their peers. In view of these limitations, the researcher therefore sought to introduce collaborative teaching to teachers at this school on a trial basis to see whether this particular teaching mode could support both the teachers in their current teaching environment as well as their students in a more friendly and enjoyable learning process.

2. Objectives of the Study

The objectives of the study were to develop a collaborative teaching model for Thai elementary school teachers in a small school and to evaluate the newly developed model whether experienced classroom teachers would be willing to learn and able to use a collaborative teaching model for guiding their regular classroom practice.

It should be noted that the first objective required a training workshop for the purpose of preparing a specially selected group of teachers with skills needed to encourage the use of collaborative strategies with colleagues in developing lesson plans and in implementing those plans. The second

objective required evaluation tools for the training workshop and the actual collaborative teaching in the classroom to determine whether the teachers actually understood and accepted the concepts of collaborative teaching as well as determine their initial reactions to teaching in a collaborative manner.

3. Methodology

3.1 Subjects

The subjects in the study were three elementary teachers of grades 1-3 who volunteered to participate in a collaborative teaching professional development study.

Table 1 Participating Teachers

Teachers	Gender	Highest Degree	Years of Work Experience	Grades Taught Experience	Level of teaching
Teacher 1	Female	Bachelor's-Education (Administration)	25	7-9	Grade 1(Head teacher)
Teacher 2	Female	Bachelor's-Other (Computer)	12	Kindergarten	Grade 2
Teacher 3	Male	Bachelor's-Other (Agriculture)	15	5-9	Grade 3

All three teachers have good experiences in teaching at different grade levels. Only one of the teachers has a degree in education. Teacher 1 has been teaching at the elementary level for five years and at the secondary level for twenty years. Teacher 2 used to teach at the kindergarten level for a few years before turning to the elementary level. Teacher 3 has been teaching mathematics and science subjects across elementary and secondary levels. All three teachers are responsible for grades 1-3 and voluntarily participated in the study.

3.2 Instruments

3.2.1 The Collaborative Teaching Model as shown earlier in Figure 1.

3.2.2 Collaborative Teaching Workshop

Based, in part, on the studies reported before Figure 1, the researcher designed a six-hour workshop for the three teachers to familiarize them with the principles, key assumptions and elements of collaborative teaching. The participating teachers were trained by the researcher on (1) the constructed collaborative teaching model, (2) how to work with partners in a team, (3) take a teaching role in the framework of collaborative teaching, lead and support learners in devised learning activities, (4) provide feedback to teaching partners, and (5) use results of collaborative teaching evaluation to adjust or improve their collaborative teaching strategies. The following topics were covered in the teacher training workshop:

Introduction

- The constructed model of Collaborative Teaching
- Purpose and expected outcomes of the workshop
- Teachers' understanding of collaborative teaching
- Underlining the basic ground rules such as being flexible and supporting each other

Ice breaking Game

- What makes a team?
- What makes an effectiveness collaborative team?

A Common Set of Collaboration Principles:

- A sense that all participants are valued.
- Embrace the unique perspectives of all team members.
- A strong sense of purpose.
- Trust and a sense of shared responsibility are important.

Key Assumptions:

- Teaching teams must value diverse membership and ideas.
- Each member has expertise.
- Teams must have a common purpose.
- Team members need to trust one another.
- Trust allows members to share in decision-making and responsibility.

Five Essential Characteristics:

- Positive interdependence
- Face-to-face interaction
- Interpersonal skills
- Monitoring in developing time and methods for regular processing
- Individual accountability

Collaborative Teaching Examples on the Internet

Some popular examples of collaborative teaching and collaborative team planning available on the Internet were shown to participants to encourage discussion and to express of their own personal attitudes.

Presentation of Video Clips

- Teachers' collaborative teaching
- Students' collaborative learning

Points to Consider in Collaborative Team Planning

- Set a schedule for team meetings
- Bring an open mind to the table. (Share, listen and learn from the team members)
  - -"How things are going in the particular subject area?"
    - Find out how others might teach the same topic
    - Discuss the different ways to motivate students
  - -Reach a consensus on the weekly lesson plan so members can cooperate fully.

Lesson Plan Activities

- Teachers make lesson plans together
- Perform Role Plays about how the teaching of the created lesson plan is expected to be carried out
- Follow up with a discussion by the team on the teaching experience

3.2.3 Closing the Workshop: Teachers' Feedback and Evaluation

The researcher constructed a satisfaction rating-scale form of 1 (low) to 5 (high) to secure feedback from the participating teachers in four parts: (1) Content delivery – seven items, (2) Facility – two items, (3) Satisfaction – four items, and (4) open-ended questions – two items. The evaluation form is shown in the Appendix to this paper.

3.2.4 Preparing to Practice Collaborative Teaching

Following the training workshop, teachers began working together in the planning of lessons and learning activities as well as delivering the lessons. They agreed to prepare and present a total of twenty lessons, ten in mathematics and ten in science; using what they learned about collaborative planning and teaching.

3.2.5 Assessing the Collaborative Teaching Project

Two head teachers, using a classroom observation scheme, observed the teachers in action. The criteria of their assessment included: teaching role and procedures, classroom supervision, shared decision-making, positive interdependence, face-to-face interactions, interpersonal skills, monitoring time limit and developing appropriate methods, and individual accountability. Additional data were obtained by the two head teachers through an informal structured interview.

An evaluation form (Appendix) was constructed using a scale of 1 (low) to 5 (high) to map feedback from the participating teachers. The following aspects were included on the form: (1) the principles of collaborative teaching – five items; (2) the key assumptions of collaborative teaching - five items, (3) the elements of collaborative teaching - five items, and (4) overall satisfaction - one item.

3.3 Data Collection Procedure

There were four phases in the six-month data collection procedure at Soonthonvittaya School, a small private school in Ayutthaya as follows:

1. Teachers were asked to participate in a one-day workshop the purpose of which was to help them understand the theoretical basis and essential techniques for teaching collaboratively.
2. Teachers were asked to develop collaboratively 10 lessons in mathematics and 10 lessons in science and then teach those lessons using state-of-the-art collaborative methodologies.
3. Teachers used all developed lessons in the scheduled classes for twenty weeks or one term in the school system.
4. An evaluation plan was put in place that involved two head teachers. Special rating scales were created to assist in this process.

4. Data Analysis

Data analysis was carried out quantitatively and qualitatively. Quantitative data were obtained in frequency and averages from two instruments: the workshop evaluation and the collaborative teaching evaluation. Qualitative data were from content analyses of interview responses and observation records; they were presented in brief description and brief excerpts.

5. Results and Discussion

5.1 Collaborative Teaching Model

It appears that the Collaborative Teaching Model proposed in this paper provides teachers with the opportunity to participate as both learners and teachers. Teachers' responses helped to illustrate a number of changes that were achieved with the assistance of the Collaborative Teaching Model. Specifically, these related to their attitudes toward teaching and lesson plan preparation. These changes are illustrated and discussed in regard to each phase of the project.

For example, as shown below, when working on the design of lesson plans in science, teachers' interactions show willingness to negotiate a number of assumptions:

T1: "We should have separate groups for different areas in the school."

T2: "As a station learning? But, I don't know how to teach science…"

T1: "I will show you a good science book. We can ask the students to walk around the school and find out about living things and non-living things."

T3: "Can we not use the book? I agree with you on station learning. We should design the same science tasks and integrate measuring skills of math into the science subject.

5.2 Collaborative Teaching Workshop

Teachers were introduced to the collaborative teaching model at the beginning of the workshop so they could understand the goal of training and familiarize themselves with the principles, key assumptions and elements of collaborative teaching. From the researcher's observation, the participants increased their interaction when watching the video clips and creating lesson plans. The teachers appeared to hold back a little fearing judgment. For example when the researcher asked about their experience with collaborative teaching, they hesitated until one teacher started explaining why it didn't work for them in the past. She said that all three of them had been trained to use integrated instruction and co-teaching. They implemented them in one term only and then decided to stop. However, they would like to give a second try to collaborative teaching.

The researcher tried to encourage them to think more creatively about strategies for helping students learn by not using traditional worksheets. On this point, the teachers came up with an idea of a project which would invite students to present their posters and display them in the public areas of the school. This type of displays can reflect achievements of the students and teachers alike. The teachers appeared to show keen interest and enthusiasm in working together on creating lesson plans and sharing their experience in bringing about the best possible lesson plan for each team member to try later on. The results of their workshop evaluation at the average level of = 3.56 and 4.10 as overall satisfaction (see Tables 2 and 3).

There was some disagreement about materials and tasks. One teacher suggested, they should not use the science workbook and asked the students to do exercises afterward. He suggested integration between science and math subjects. It became apparent that disagreements have their role in bringing new ideas into the group for further evaluation and reflection.

At the end of the workshop, the researcher used a rating-scale as an evaluation form of 1 (low) to 5 (high) to secure satisfaction feedback from the participating teachers. As seen in Table 2, the overall result from the opinion of the teachers was positive in satisfaction (average 3.56) for the impact of the collaborative teaching workshop.

Table 2 Workshop Evaluation by Teachers

Item	Teacher 1	Teacher 2	Teacher 3	Average
1	4	3	3	3.33
2	4	3	3	3.33
3	4	4	3	3.66
4	4	3	4	3.66
5	4	4	4	4.00
6	3	3	4	3.33
7	4	4	3	3.66
8	3	4	3	3.33
9	4	4	4	4.00
10	4	3	4	3.66
11	3	3	4	3.33
12	3	4	4	3.66
13	3	3	4	3.33
Total	**3.62**	**3.46**	**3.62**	**3.56**

Note: Level of opinion: (1.00-1.50) Strongly disagree; (1.51-2.50) Disagree; (2.51-3.50) No opinion; (3.51-4.50) Agree; (4.51-5.00) Strongly agree.

5.3 Collaborative Lesson Planning

Lesson plans were designed and created to include learning activities with integration of mathematics and science. The lessons were for a mixed level of grades 1-3 students, in three groups of 5-6 students. The participating teachers planned for co-operative learning groups in four stages: (1)

creating positive norms of the group, (2) designing learning tasks that support learning and understanding, (3) modeling appropriate behaviors as well as (4) monitoring group progress. First, teacher 3 gave an introduction at the assembly on a new way of learning. He explained to the students that they were to work in groups. He then introduced two teachers as the teaching team members, and explained the procedure. Next, the teaching teams asked their respective student groups to watch a short video. The video explained the principles of co-operative group learning. The students were assigned roles in the group. The teachers were then ready to negotiate with their groups about their learning tasks.

The tasks were varied. For example, comparing differences between living things and non-living things that they could discover in and around the school; or, measure height and weight of class members in attempt to explain certain physical differences among humans; or, various ways students should take care of their health. Each group was then assigned to create a poster which could be used when they reported to the whole class. The teaching objectives were (1) to research a particular topic and (2) practice writing and illustrating their findings.

5.4 Observation of Collaborative Teaching

After the training period, the teachers worked in the scheduled class with their partners, followed by evaluation by two head teachers using a classroom observation scheme.

Observation 1

The teachers interacted according to agreed roles and the procedures. Teacher 3 explained the procedure of learning to the students. Teacher 1 asked students to join his group before viewing the video. Teacher 2 helped organize the seating arrangement for the students. All three teachers collaborated well in the scheduled class.

As observed in the learning activities, Teacher 2 had one special-needs child in her group. Teacher 2 explained to the group members the lesson procedure and the activities and, in particular, to the special-needs child to make sure that all group members had a clear understanding of what to do in group work. Other teachers were present. She showed good confidence in making decision on involving others and sharing information. She appeared to spend more time with grade 1 children and remind them about the closing time. She enjoyed encouraging the older children to help the younger ones.

Observation 2

The researcher observed the teachers' performance on the essentials of the collaborative teaching model: (1) role taking and teaching procedure, (2) their classroom supervision, (3) shared decision-making/ responsibility, (4) positive interdependence, (5) face-to-face interaction, (6) interpersonal skills, (7) monitoring in developing time and methods for regular processing and (8) individual accountability.

From the researcher's observation, the teachers showed some confidence in taking the leading role when needed. One example was at the morning assembly. After the national anthem, Teacher 3 picked up the microphone to talk to students, while the other two teachers nodded and smiled to encourage him. Teacher 3 showed support and cheerily sought to involve all students in group participation. He gave students some keywords to prompt turn-taking and active listening with questions like "what's your opinion?" At first the students were a little shy and avoided eye contact, but soon ended up laughing when the teacher used a funny voice to ask for an opinion. Teacher 3 accepted this interference and saw it as helping children understand how to work in a group.

One other good example of teachers collaborating shows Teacher 1 volunteering to conclude the lesson, while the other two colleagues help collect the feedback sheets from the students. As for evaluation of their collaborative teaching, Teacher 3 provided feedback to the other two teachers where s/he suggested considering students place their posters on one big table for everyone's presentations. This type of direct suggestions showed teachers' willingness to accept professional advice.

5.5 Evaluation of Collaborative Teaching

The researcher conducted an informal interview to obtain feedback from the participating teachers.

Teacher 1 pointed out that planning and preparing the materials was time-consuming. It was obvious that teachers could save time if they shared the leading roles. She thought that all three teachers should have a schedule in a common office to discuss collaborative teaching and to create their shared lesson plans. She realized that it was beneficial for teachers to exchange group work experiences. She also identified some students' difficulties in the beginning stages of group work, when having to deal with peers from different grade

levels. Typically, it took her more time to ease them into the process of group work.

Teacher 2 reported that the students would need more time to familiarize themselves with working in groups. She said that she also would need a little more time to seeing it work in the context of collaborative teaching. At the time of the interview, she felt more confident in using collaborative strategies in other subjects. She said that she might not be able to share much of her ideas during group work but she could learn best from listening to the other two teachers. She could see for herself that the students were positive in helping each other understand the lesson.

Teacher 3 was confident about collaborative teaching, provided they were allocated enough time to do preparation. He learned from his colleagues that, often, classroom management problems that he had encountered, could easily be handled with support from his co-teachers. It was important to find effective ways to engage students in learning activities and challenging them with interesting learning tasks. He became aware of how important the sense of achievement was to the students, when completing their assigned task like poster presentation and their public display. He felt rewarded when seeing enjoyment of the students, when they worked on their learning activities and were complimented by their teachers. To him, it was truly gratifying to see his students motivated to assist each other in finishing their group work.

The researchers conducted an informal interview to secure feedback from the teachers. All three teachers responded about their collaborative teaching experience at different times after the implementation of collaborative teaching. Here are some selected excerpts:

Teacher 1 (head teacher) described her students' learning:

> "I can see that children have improved some of their skills. They were enthusiastic in working together. From week 1 to week 2, teachers and students often talked and discussed with one another before getting to work. One example, one boy of grade 3, he used to be shy and did not have courage to talk to the teacher, but one day during group work, I walked past and he just came up to me to show his group project on science. I was surprised but then I realized that he was the leader of the group in learning activities and he obviously gained his confidence in the group learning process; he was the big brother of the group."

Teacher 2 talked about her experience with collaborative teaching:

> "I can see the benefit of this collaborative teaching model. We bring more fun into learning and teaching even though we had to spend more time with planning and preparing what to teach our children. For the first attempt at collaborative teaching, students were not ready to work in a group. They didn't know each other that well because they were level-mixed. But by the second and the third rounds, they were more sharing and enjoyed selecting their specific role in the group. One boy in my group was a special-needs child; he showed some interest by asking questions and doing work on his worksheets with assistance from older children."

Teacher 3 talked about the impact of collaborative teaching:

> "I feel collaborative teaching is new to me, and is more attractive than other previously trained teaching methods. I do enjoy it. Children were developing on their group work skills. They were more confident in sharing, discussing and presenting in the group and interacting with other groups. Children gave some feedback about their enjoyment with this new way of learning. There were a few limitations such as time and mixed levels. It was not enough time for some children to finish their group work as scheduled. I found that children from grade 1 and 2 couldn't read and write at the same level so the teacher should set aside time for reading together.

Collaborative teaching, as implemented by the three teachers, was evaluated with use of a rating scale of 1 (low) to 5 (high) in terms of satisfaction with six given specifications. Table 3 shown below indicates that collaboration can bring about some change in teachers' beliefs and attitudes toward teaching. The total average was 4.10 pointing to the teachers' positive attitudes toward collaborative teaching implementation. It should be noted that the total evaluation average of each teacher at 4.75, 3.81 and 3.75 for the essential characteristics of collaborative teaching perhaps suggests that teachers should need more time to internalize the essential characteristics of collaborative teaching: positive interdependence, face-to-face interaction, interpersonal skills, monitoring in developing time and methods for regular processing and individual accountability.

Table 3 Evaluation of the Implemented Collaborative Teaching by Teachers

Item	Teacher 1	Teacher 2	Teacher 3	Average
1	5	4	4	4.33
2	5	4	4	4.33
3	4	4	4	4.00
4	5	4	4	4.33
5	5	4	4	4.33
6	5	4	4	4.33
7	4	4	3	3.66
8	5	4	4	4.33
9	5	4	4	4.33
10	5	4	4	4.33
11	5	4	4	4.33
12	5	3	4	4.00
13	5	3	3	3.66
14	4	3	3	3.33
15	4	4	3	3.66
16	5	4	4	4.33
Total	**4.75**	**3.81**	**3.75**	**4.10**

Note: Level of opinion: (1.00-1.50) Very low; (1.51-2.50) Low; (2.51-3.50) Average; (3.51-4.50) High; (4.51-5.00) Very high

Overall, this project challenged the teachers participating in this research project to work together as partners in a team. They were guided by the principles and essentials of collaborative teaching developed in the course of this project. The preparatory workshop exemplified to teachers the benefits of sharing ideas about team-work and lesson plan design, with their roles being clearly identified at each stage of the team teaching process. The teachers were then supported in devising learning activities guided by the concern for the possible needs of their students. Each teacher had his or her part in implementing the collaboratively created lesson plans and devised learning activities. This involvement definitely led these teachers to believe that they were of value as team members. In this regard, it was not surprising to see the positive attitudes to team work in of teachers' evaluations of the workshop and team teaching.

Valuing collaborative teaching is in line with concepts which see development in collaboration (e.g. Vygotsky, 1978). Vygotsky emphasized the importance of teachers' professional development through negotiation and in order to serve negotiation. The teacher experience is then socially constructed, through reflection upon their own experience and the expertise of group members, as reported in the study by Johnson & Johnson, 1998.

5. Conclusion

In conclusion, the positive results of this study confirm the relevance of professional development workshops which teach collaborative teaching strategies. It is therefore important for school administrators to offer support for teachers to participate in such workshops. Teachers should be provided with a schedule allocated for their discussion in a common office. Without this support, it may be unlikely that teachers would use collaborative teaching strategies in their classroom, because of their busy teaching schedule. With such scheduling limitations, teachers with a good initiative are unable to make any innovation possible. Tight class scheduling means they are only able to use their traditional teaching approaches which tend to cover contents rather than focusing on the students' learning process. It is expected that an attempt at collaborative teaching, as shown in the case study in this research can to a certain extent, show the way a small school and a small group of teachers make their classroom a challenge for their learners. In particular collaborative teaching as teacher professional development can serve as one of the best tools for teachers to make a step forward in their teaching profession.

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9. Appendix

Training Workshop Evaluation Form

Directions: For each statement, please check your perception/ satisfaction with the given items by using a rating scale from 1(low) to 5 (high).

Specifications	Check your response 1 Low to 5 High				
Content Delivery					
1.The goals of the workshop were clearly defined.					
2.The topics covered were relevant.					
3.There was sufficient opportunity for team work and interactive participation.					
4.The workshop allowed me to work with the other participants.					
5.The workshop was too technical and difficult to understand.					
6.The training experience will be useful in my work.					
7.The schedule for the workshop provided enough time to cover all of the proposed activities.					
Facility					
8.The meeting room and facilities provided a comfortable setting for the workshop.					
9.The location for the workshop was convenient for me.					
Satisfaction:					
10.The goals of the workshop have been met.					
11.I am satisfied with learning new things in the workshop.					
12.I was satisfied with the collaborative teaching method.					
13.I was satisfied with the overall training program.					
How do you hope to change your practice as a result of this training? _____					
What additional training would you like to have in the future? _____					

Evaluation of the implemented collaborative teaching

Directions: Teachers please rate perception-based specifications for evaluation of the implemented collaborative teaching on a rating scale of 1 (low) to 5 (high) as follows:

Principles of collaborative teaching:

1.All team members work together towards a common goal….1 2 3 4 5

2.A sense that all participants are valued…. 1 2 3 4 5

3.The teaching method embraces the unique perspectives of all team members…. 1 2 3 4 5

4.A strong sense of purpose….1 2 3 4 5

5.Trust and a sense of shared responsibility....1 2 3 4 5

Key assumptions of collaborative teaching:

6.Team members value diverse membership and ideas…. 1 2 3 4 5

7.Each member has expertise…. 1 2 3 4 5

8.Team members have a common purpose…. 1 2 3 4 5

9.Team members trust one another… 1 2 3 4 5

10.Team members share decision-making and responsibility…. 1 2 3 4 5

Elements of collaborative teaching

11.The degree of positive interdependence….. 1 2 3 4 5

12.Sufficiency of face-to-face interaction…. 1 2 3 4 5

13.Competency of interpersonal skills…. 1 2 3 4 5

14.Monitoring success in developing time and methods for regular processing…. 1 2 3 4 5

15.The degree of individual accountability of each team member…. 1 2 3 4 5

Overall satisfaction

16.Your overall satisfaction with your performance via collaborative teaching…. 1 2 3 4 5

Additional remarks, if any

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