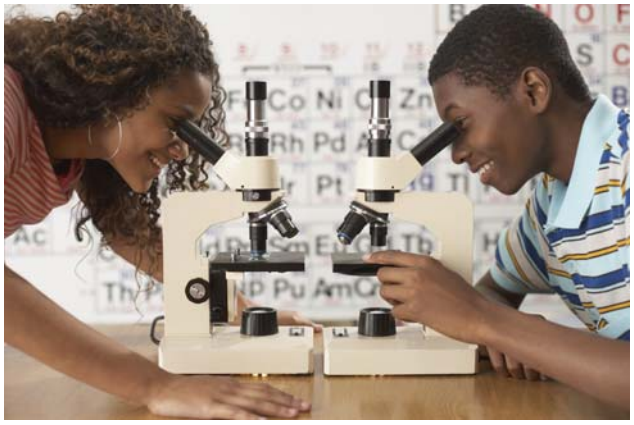
A GUIDE TO IMPLEMENTING

LESSON STUDY



for District and School Leadership Teams in DIFFERENTIATED ACCOUNTABILITY SCHOOLS

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A Guide for Implementing

Lesson Study for District and School Leadership Teams in Differentiated Accountability Schools

Summary: The purpose of this guide is to provide suggestions to district and school leadership teams for implementing Lesson Study in Differentiated Accountability (DA) schools. Guidance is provided as suggestions to implement Lesson Study as required in the 2010-2011 DA Strategies and Support document for newly identified "F" schools, Intervene, and those labeled as Persistently Lowest-Achieving (or Lowest 5%). Resources are provided that will enhance the implementation of Lesson Study.

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A. GENERAL INFORMATION

A-1. What is Lesson Study?

Lesson Study is an ongoing professional development process utilized within Professional Learning Communities (PLCs) to allow teachers the opportunity to create a model for high-quality instructional practices. It is also a method for improving a lesson through teacher collaboration. Lesson Study originated in Japan as an approach to instructional improvement that has recently sparked much interest in the United States. Lesson Study meets Florida Professional Development System Evaluation Protocol Standards (1.2.1, 2.2.1, and 3.2.1), i.e., the educator participates (school-based professional learning occurs) in collaborative learning communities whose members use a cycle of continuous improvement to achieve goals that align with individual, school, and district goals for student achievement.

A-2. Who is required to implement Lesson Study?

Full implementation of the Lesson Study Process is required for schools in DA that are categorized as "F", Intervene, or are a part of the Lowest 5%. Districts are required to train all schools for Lesson Study but the degree and scale of implementation is a district decision. DA Regional Teams provide direct support to "F", Intervene, and Lowest 5% schools with a focus on Lesson Study implementation.

A-3. What is the objective of Lesson Study?

The objective of Lesson Study is to create structured occasions for teachers to examine teaching and learning. The foci of Lesson Study are to improve the lesson planning process, refine instructional strategies and delivery, evaluate results, evaluate student thinking, and increase student mastery.

A-4. Why is Lesson Study different from other professional development workshops?

Lesson Study is a job-embedded, ongoing, comprehensive professional development process. It allows teachers to explore real instructional challenges that are faced in their classrooms with their students. This professional development is teacher-directed and student-centered. Lesson Study assists in defining shared best practices and strategies, and builds capacity as it encourages the creation of relationships and collaboration with peers.

A-5. What are the benefits of Lesson Study?

- In addition to bringing educational goals and standards to life in the classroom, Lesson Study allows teachers to:
  - consider the objectives of a particular content area, unit and/or lesson
  - plan lessons that bring to life both short-term and long-term goals
  - deepen subject matter knowledge
  - develop pedagogy
  - share and design best practices
  - participate in job-embedded learning
  - explore problems that impede student learning
  - understand how students think and learn
  - learn successful teaching techniques and behaviors from other teachers
  - develop peer coaching skills
  - improve student learning based on observations and assessments

- think deeply about short-term and long-term goals for students
- anticipate student thinking
- collect and analyze student learning and behavior data
- improve instruction based on careful observation of students by understanding how students learn
- support beginning teachers

A-6. How does Lesson Study fit with other initiatives?

- Lesson Study enhances successful strategies currently included in many initiatives, such as Florida's Continuous Improvement Model (FCIM), Professional Learning Communities (PLCs), Problem-Solving and Response to Intervention (PS/RtI), Data-Driven Instruction, and Instructional Coaching Cycles.
  - Lesson Study is included in the "Act" component of FCIM as professional development.
  - PLCs are more effective when the focus is on improving instructional delivery and increasing student achievement.
  - Data gathered from student observations allow teachers to redirect the instructional focus based on students' academic needs.
  - Instructional coaches develop a consistent pattern of working collaboratively with teachers.

- Lesson Study can also assist schools involved in the Instructional Review Process to identify critical academic issues facing the school. Refer to Appendix A.

A-7. How does Lesson Study improve the PS/RtI Implementation at the school level?

For this tiered arrangement of resources, referred to as RtI, to result in maximum student outcomes, each tier must be demonstrably effective for large numbers of students. The core package of instruction and supports provided to students at the Tier 1 level, for instance, must prove effective based on students achieving at expected levels of performance and adequate rates of progress. If the universally provided instruction is not effective for most students, then large numbers of students will unnecessarily require additional resources and supports. Lesson Study strengthens instructional knowledge and student achievement. This is a direct benefit to the quality of instruction provided at all levels of the tiered continuum of service, especially Tier 1. For more information about RtI, refer to Appendix A.

A-8. How does Lesson Study address the Florida Professional Development System Evaluation Protocol Standards?

- Lesson Study meets Florida Professional Development System Evaluation Protocol Standards 1.2.1, 2.2.1, and 3.2.1. Specifically, those standards require that the educator participates ("school-based professional learning occurs") in collaborative learning communities whose members use a cycle of continuous improvement to achieve goals that align with individual, school, and district goals for student achievement.
- It would also be expected that teachers who are participating in Lesson Study would have Lesson Study and the associated student learning goals reflected in their Individual Professional Development Plans (IPDPs).

A-9. What are the phases of a Lesson Study cycle?

- There are four phases to a Lesson Study cycle, which are explained in Appendix A.
  - Phase I: Scheduling and Planning
  - Phase II: Teaching and Observing
  - Phase III: Debriefing
  - Phase IV: Re-Teaching and Reflecting

A-10. How long should a Lesson Study cycle take, and how often should we have one?

There is not a defined time period to complete a cycle. Since Lesson Study is an ongoing process, it should be implemented throughout the school year. Several cycles can be completed, and as teachers become more skilled, cycles can be implemented in fewer weeks. An example of a year long plan is shown in Appendix A.

A-11. Why is more time spent on planning and improving the lesson?

More time is devoted to planning and improving the lesson because the lesson plan is the backbone of Lesson Study.

A-12. Are there variations to Lesson Study?

Yes, there are many variations to Lesson Study. See Resources section for additional information.

A-13. How can we best prepare for implementation of Lesson Study?

During initial professional development sessions and/or PLCs, select from resources found at the end of this guide. You may also contact your Regional Executive Director (RED) to obtain copies of PowerPoint presentations.

A-14. How will we know if we are doing Lesson Study correctly?

Instructional delivery methods will be more effective and student achievement will increase if Lesson Study is implemented with consistency. The Lesson Study team (LST) will have more transformational learning opportunities and glean new strategies from each other that will assist them in increasing student achievement. As the year progresses, the implementation of Lesson Study will improve as teachers grow professionally.

A-15. What funds can districts or schools use to implement Lesson Study?

Funds that can be used to implement Lesson Study include the School Improvement Grant, Title I and II funds, and general revenue. Some of these funds may be used to hire substitutes for teachers who may be observing the lessons or to acquire additional resources needed to enhance the Lesson Study process.

A-16. Are there districts or schools currently implementing Lesson Study?

DA Regional Teams began implementing Lesson Study in many districts and schools during the 2009-2010 school year. Please contact your RED for a list of schools that are successfully implementing Lesson Study.

Please click on the link below to access contact information for REDs.
www.flbsi.org

B. GUIDE TO INTRODUCING THE LESSON STUDY PROCESS

B-1. What is the purpose of Lesson Study?

- The purpose of Lesson Study is to provide districts, administrators, coaches, and teachers with content and pedagogical learning to strengthen their instructional knowledge and increase student achievement. Lesson Study can be delivered through professional development sessions or school-site teams. This guide includes:
  - background questions for discussion
  - sample lessons
  - hands-on group activities
  - references for further study
- Lesson Study is used to help all participants deepen their knowledge of content, pedagogy, and student thinking. It also provides access to knowledgeable colleagues with the goal of improving effectiveness of instruction. To initiate the Lesson Study process, districts or schools develop an initial, one-day training session. During the training session, participants may:
  - learn the basics of Lesson Study
  - actively engage in a Lesson Study experience
  - work together to solve problems related to student learning and engagement
  - plan for implementation of Lesson Study in their school
- Lesson Study is an opportunity to:
  - think carefully about the goals of a particular lesson, unit, and/or subject area
  - read, listen and think, as well as express and question ideas
  - study and improve the best available lessons
  - deepen subject-matter knowledge
  - build powerful instructional strategies and quality lessons through collaboration
  - improve teaching through systematic collaborative inquiry

B-2. How should Lesson Study be described to administrators and teachers?

Lesson Study is a powerful job-embedded, peer-to-peer professional development. In Lesson Study, teachers and other educators work collaboratively to strengthen a given lesson until it has been refined in a way that maximizes student learning. Following the teaching of the lesson, the Lesson Study team meets in a colloquium (debriefing). The session begins with a reflection by the teacher who delivered the lesson. After the facilitator's reflection, the other members of the Lesson Study team share data they collected during the lesson. Lesson Study teams may then make a decision to revise the research lesson and re-teach the lesson or simply apply what they have learned to another lesson.

B-3. Who is the intended audience for a Lesson Study?

School-site administrators, instructional coaches, department chairs, and subject area teachers are the intended audience for this training. Each of these members will have an assigned role. (Refer to Appendix B.) District administrators are encouraged to participate in order to foster collegiality between schools. This will allow for mentoring relationships and capacity building among teachers and administrators at different facilities (Fullan, 2006).

B-4. What essential questions should be asked to begin the Lesson Study?

- Essential questions of the Lesson Study team should be context-specific for the school and based on the school's data revealing student need. Suggested essential questions include:
  - Is the lesson aligned to the Next Generation Sunshine State Standards (NGSSS)?
  - What specific benchmark(s) does the lesson include?
  - Will the instruction result in student learning at the level of complexity required for the benchmark?
  - How can teachers enhance the teaching and learning process to provide data-driven instruction that will increase student proficiency in all subject areas?
  - What do we want students to learn and be able to do by the end of the unit of study and by the end of the school year?
  - What is the current rate of progress and level of performance of students enrolled in this course/class?

B-5. What are the intended outcomes of Lesson Study?

- Some of the intended outcomes of Lesson Study include:
  - development and use of team-created lesson plans as a part of the process
  - incorporation of reading and writing across the curriculum for all subject areas by using "Three Types of Essential Reading Activities" (pre-reading, during reading, and after reading strategies) in daily instruction
  - teacher use of rigorous questions, assignments, and assessments
  - development of an understanding of Lesson Study as a collaborative process
  - understanding how Lesson Study is a way to strengthen teaching and learning in schools
  - application of Lesson Study in a variety of ways, including lesson development and testing through Lesson Study
  - examination of the role of the district and the principal in implementing effective Lesson Study teams
  - skill development in other professional learning activities related to Lesson Study
  - support of fellow teachers in initiating and building Professional Learning Communities with a focus on Lesson Study

B-6. Is there a resource that can be used to determine educators' previous knowledge about Lesson Study?

Yes, a Knowing-Wondering-Questioning-Thinking (KWQT) chart can be used as a tool to determine what teachers know and what they would like to learn. Refer to Appendix B.

B-7. Are there resources that can be used to plan for future meetings?

Yes, the templates provided in Appendix B give examples of how Lesson Study can be scheduled and planned.

B-8. How can we establish protocol for implementing Lesson Study?

A protocol can be found in Appendix B.

B-9. How can we record the occurrences of each meeting?

Logs can be found in Appendix B.

B-10. How can we plan for additional meetings?

Forms to assist in planning additional meetings can be found in Appendix B.

C. PHASE I. SCHEDULING AND PLANNING

SCHEDULING

C-1. Who participates in Lesson Study?

Teachers, instructional coaches, and education specialists who support general education instruction should participate. Additionally, a "Knowledgeable Other" is included during the process. The Knowledgeable Other should be a content and/or pedagogical expert in the field of study, who participates in discussions and collaborates with the Lesson Study Team.

C-2. How do you select a Knowledgeable Other?

A Knowledgeable Other can be a university professor who may never actually attend a lesson study meeting but would guide thinking through online questions and discussions or by noting specific research to read. You may also use an author, high school teachers, a museum worker, a child psychologist, or a researcher.

C-3. Why is common planning a helpful component of Lesson Study?

The most effective component of Japanese Lesson Study is the opportunity for teachers to observe the process of teaching and student learning. Master schedules can be created so teachers have common planning time, by subject area and/or grade level, to engage in collaborative, systematic problem-solving, and improve the effectiveness of instruction. Descriptions for implementing Lesson Study in various scheduling situations can be found in Appendix C.

PLANNING

C-3. What roles do the teachers and instructional coaches have in the Lesson Study process?

As the Lesson Study process is developed, teachers and instructional coaches can assume a variety of roles. A chart that outlines the roles can be found in Appendix C.

C-4. What questions need to be answered during research and lesson planning in the initial phases?

- Below is a list of suggested questions to ask during research and lesson planning.
    - Are teachers familiar with Course Descriptions for the subject area as outlined in the Course Code Directory (CCD)?
    - What do students currently understand about this topic?
    - What do we want students to understand (and be able to do) at the end of the unit?
    - Which Next Generation Sunshine State Standard and/or benchmark will be addressed throughout the unit?
    - How will the Cognitive Levels of Complexity (Low, Moderate, High) be aligned to instructional delivery?
    - What will students need to know before the lesson?
    - What will students learn during this lesson?

- What is the sequence of experiences (lessons) through which students will learn what they need to know? What will make the unit and each lesson motivating and meaningful to students?
- How will students respond to the questions and activities in the lesson? How will students' responses be gathered and measured? What types of problems and misconceptions may arise during the lesson and how will teachers respond to them?
- What evidence should we gather and discuss about student learning, motivation, and behavior? What data management tools are needed to discuss these topics?

C-5. What is the first step in Lesson Study?

The first step in Lesson Study is to analyze student data to determine what the Lesson Study topic should address. Examine this quote from Stepanek, Appel, Leong, Mangan, and Mitchell (2007):

> "Through the disaggregation and analysis of student achievement data from state and district assessments, patterns may emerge that indicate weaknesses in student understanding or skills. By using data to select the Lesson Study topic, the teachers ensure that their work will focus on the areas of greatest need, such as reading expository text in English, problem solving in math, or making sense of phenomena in physical science."

C-6. Are there tips for preparing a successful Lesson Study?

Yes, the resources in Appendix C are provided to assist in the organization of a Lesson Study session.

D. PHASE II. TEACHING AND OBSERVING

D-1. What is the protocol for teaching and observing the initial lesson and what evidence should be collected during the initial lesson?

- The facilitator will ask for a volunteer or randomly select one of the participants to teach the lesson. Other team members will observe the lesson. Observers will take detailed notes and gather evidence without making judgments to share during the debriefing.
- All the adults in the classroom are observers, except the teacher who is teaching the lesson. Observers offer new and multiple perspectives that can capture evidence of student thinking and understanding.
- The team agrees in advance what data they would like to collect and assigns every member of the teaching group to be observers of the lesson. Assigning specific tasks to the observers can enhance the value of the debriefing. It can be useful to have some observers follow individual students. The list below explains what an observer should do during the observation.

<u>Data Collection Procedures for Observing the Initial Lesson</u>

- Take notes throughout the whole lesson.
- Take notes on individual student responses, using student names, when possible, or the location of a student's seat.
- Record interactions between teacher and students and between students.
- Record how students begin their work and approach the tasks.
- Document common misunderstandings the students have, and how, and when, their understanding changes.
- Indicate how individual students construct their understanding through activities and discussions.
- Document the variety of solutions that individual students use to solve problems.
- Observers should *refrain from*
    - side conversations
    - teacher evaluation (including the principal)
    - acting as trainers or professional developers
    - serving as additional teachers in the classroom
- Additionally, the team should encourage observers to develop a specific question regarding the area in which they want to collect evidence. For example: *How will the students react to a question posed by the teacher?* Having a good question will help focus the observers and keep them engaged in the lesson. Observers should take on the role of a researcher and use the goals of the lesson to guide the data collection. Below are examples of questions that can be asked:
    - Was the planning process effective? Why or why not?
    - What would you do differently next time and why?
    - Did the long term goals and Lesson Study goals help to focus your learning?
    - Were you able to generate anticipated student problems?
    - What are the implications for your teaching in the future?

D-2. What will the teacher use to teach the lesson?

The teacher will use the lesson that was developed by the Lesson Study team. Examples of templates that can be used are provided in Appendix D. The sample template includes the following components of effective instructional delivery: focus lessons, alignment to Next Generation Sunshine State Standards, journal activities, vocabulary activities, higher order questions, differentiated instruction, technology and literature components, learning stations, whole group and small group instruction, and RtI services.

D-3. Are there templates that can be utilized during the observation process?

Yes, sample templates for the observation process are provided in Appendix D.

E. PHASE III. DEBRIEFING

E-1. What role should the Lesson Study Facilitator play in the debriefing process?

- The Lesson Study Facilitator should be a person who is collegial and able to draw in all members involved in the Lesson Study team in a productive manner. This person guides the debriefing process without criticizing the team members in a way that impairs the team. Below is an example of the facilitator's role and suggestions on how to debrief.

Challenges of the Colloquium and Debriefing

> "Many teachers have little experience in observing and analyzing student learning or reflecting deeply about practice with their colleagues.... In too many schools, teachers are congenial and not accustomed to robust collegial conversations. Teachers working in the isolation of their classrooms may not have had the opportunity to develop a rich vocabulary around student thinking or the refined observation skills needed to gather useful data on the lesson and student understanding…It will take time for Lesson Study teams to acquire and practice the skills required for a productive debriefing. An experienced facilitator can help give team members permission to go deeper" (Stepanek, et. al., 2007, p. 102).

- The Lesson Study facilitator needs to be:
  - savvy, knowledgeable, and tactful
  - able to model an analytical approach to the debriefing and
  - able to set a clear tone of respectful inquiry
- Below are some suggestions for facilitators:
  - Frame comments or suggestions in the form of a question; this helps the team better focus on the content.
  - Adhere to the colloquium protocol; this will reduce the feeling of personalization and help create constructive discussion.
  - Provide additional guidelines, if necessary. For example, one approach to consider is asking each team member to make one positive comment about student learning, providing specific examples of how students were working toward the goals of the lesson. The next round of comments can then focus on a question that team members and others pose to the entire team of observers as opposed to a single team member. This strategy prevents volleying between the team and observers. It can also help focus the discussion on the larger issues, minimizing discussion around less important items.

E-2. What are some guiding questions that a facilitator should use in the debriefing process?

- **Reflections:** What did you see students doing? What does that tell you about student thinking?
- **Successes:** What worked? What helped produce positive outcomes?
- **Challenges:** What didn't work? What needs to be changed? Using the systematic problem-solving process will assist the team in effectively determining how to adjust the instruction for improved student response/learning.
- **Next Steps:** Should this Lesson Study be continued? Change to another lesson?

E-3. What are some strategies for feedback that a facilitator should use in the debriefing process?

Strategies for Giving Feedback

- Constructive feedback is indispensable to productive collaboration. Positive feedback is easy to give and receive. When the response highlights a need to improve, it is harder to say and much harder to hear. When done properly, feedback is a very specific kind of communication. It is important to remember that a weakness in the lesson is not the fault of the teacher but the responsibility of the team who wrote the lesson.
- Feedback is most useful when it is *audible, credible,* and *actionable.* Following the guidelines below will help you achieve that goal:
    - Give feedback with care. To be useful, feedback requires the giver to want to help, not hurt, the other person.
    - Be specific when giving feedback**.** Good feedback deals clearly with particular incidents and behavior. Making vague statements is of little value. The most helpful feedback is concrete and covers the area of interest specified by the receiver.
    - Make the feedback readily actionable. To be most useful, feedback should concern behavior that can be changed by the receiver. Feedback concerning matters outside the control of the receiver is less useful and often causes resentment.
    - Make the feedback about important aspects of the lesson, not trivial aspects**.**
    - Choose the subject of your sentences carefully.
    - When sharing feedback, use "we" or "our" as the subject of your sentence rather than "you" or "I".
        - For example: A statement that builds defensiveness:
            - "Your lesson was not well structured."
        - A statement that doesn't build resentment:
            - "Our lesson was not well structured; it did not flow."
        - Even better…
            - "How might the lesson be structured differently?"

E-4. What does a successful debriefing look like?

- Successful Lesson Study debriefing should include supportive and nonjudgmental reflections. The facilitator should encourage everyone to base their comments on the data collected during the observation and avoid all other comments.

  Flow of debriefing

  - Teacher comments on the lesson. (It is essential that when the teacher is sharing comments that others are not allowed to comment until after the teacher has finalized his or her thoughts.)
  - Each member of the Lesson Study team comments on the lesson. (While the team members are sharing comments, it is essential that the teacher does not comment until all members have shared.)
  - Open discussion:
    - I wonder what would happen if…?
    - What is another way of…?
    - What might explain…?
    - In our planning did we consider…?
    - Why did we decide to…?
  - Facilitator comments and summarizes the session.

  Participants discuss evidence about student thinking and learning. The focus is on the team's lesson, not the teacher. Observers share evidence collected and discuss implications for future lessons.

E-5. Are there templates that can be utilized during the debriefing process?

Yes, sample templates are provided in Appendix E.

F. PHASE IV. RE-TEACHING AND REFLECTING

F-1. How do we include the analysis of student work in the re-teaching and reflecting phase of the Lesson Study process?

The team reviews the observation notes and collects student work samples to help them identify needed changes. After analyzing the data collected, the team discusses how to restructure the lesson to make it more effective. Teachers connect student learning with the instructional activities in the lesson. They determine what parts of the lesson support student learning and which parts need to be revised to successfully help students reach the team goal of the lesson. In addition, Individualized Educational Plans (IEP) can be evaluated to determine the need for student accommodations and modifications to instruction. Resources on analyzing student work can be found in Appendix F.

F-2. What are some guiding questions to consider when revising and re-teaching the lesson?

- Listed below are suggested questions that the Lesson Study team should ask when revising and re-teaching:
  - What do the analyses of the data on student learning tell us about the impact of our instructional decisions?
  - Based on the data collected, did the lesson meet the students' needs?
  - How can we modify the lesson to help students reach the goals?
  - How can we make modifications to IEPs to help students reach the goals?
  - What student behaviors led to insights about your thinking?

F-3. What are the steps for observing the learning process during the re-teaching phase?

- The following protocol guidelines are meant to facilitate the lesson observation and debriefing process. The team and observers should meet before the lesson to revisit the lessons' goals and the observation protocol. The teacher may use this time to prepare the room or the students. Although these guidelines are meant to make these activities more constructive and efficiently organized, they are not meant to minimize the critical or reflective nature of the feedback session.

  <u>Observing the Lesson</u>
  - The observers, including the teachers who helped plan the lesson, should NOT interfere with the natural process of the lesson (e.g., by helping students with a problem). However, observers are permitted to circulate around the classroom during seatwork, as well as communicate with students for clarifying purposes only (e.g., if they could not clearly hear what a student was saying). Otherwise, observers should stand to the back and sides of the classroom.
  - It is a good idea for observers to note their observations on the lesson plan itself. This procedure will not only help observers focus on the goals and activities of the lesson, but also help them organize their feedback for later review.

- It is also a good idea for observers to distribute observations among themselves. For example, a few clusters of observers could watch assigned groups of students, another observer (usually one of the planning teachers) could keep time, etc. The teacher should also prepare for this observation by distributing seating charts among the observers (if seating charts are not available, the teacher could place nametags on each student), so that observers can conveniently refer to the children by name when discussing their observations and sharing their feedback.

F-4. After the re-teaching has occurred, what are the steps for the reflecting process?

- The following are some steps that can be used in the reflecting process:
  - Instead of discussing the lesson immediately after it has been taught, the entire team could take a break to gather their thoughts.
  - The team who planned the lesson should assign roles among themselves in order to help keep the discussion focused and on track. These roles include: moderator/facilitator (usually a member of the planning team besides the teacher who taught the lesson), timekeeper, and recorder(s).
  - The teachers who planned the lesson should sit together at the front of the room in panel formation during the feedback session. The purpose of this setup is to emphasize the idea that the entire team (not just the teacher who taught the lesson) is receiving the feedback.

F-5. How do we share feedback about the re-taught lesson?

- The facilitator should begin the feedback session by (1) outlining the agenda for the discussion (e.g., "First, we will hear from the teachers, who planned the lesson, and then…"); and by (2) briefly introducing the goals of the planning team.
- The teacher of the lesson should have the first opportunity to comment on his/her reactions to the lesson, followed by the other planning team members. S/he should address what actually occurred during the lesson (e.g., what worked, what did not work, what could be changed about the lesson, student performance, student behavior that indicates student thinking, student reactions to lesson parts, goal accomplishment etc.).
- The planning teachers should also raise questions/issues that were mentioned during the planning sessions, and describe how these concerns were addressed by the instructional decisions they made for the study lesson. If the feedback session is after the second implementation of an observed lesson, the planning members should clarify what changes were made between the two lessons, and how these changes related to the goals of the lesson.
- The planning teachers should direct the observers to give them feedback that is related to the goals of the lesson. The observers can then share feedback about the lesson that helps the planning teachers address these goals. For example, observers could share their suggestions about how they might have done something differently in their own classes. In addition, they could ask the planning teachers about their rationale for making certain decisions about the lesson (e.g., "Why did you choose those numbers for that problem?").

- When observers share their feedback, they could begin on a positive note by thanking the teacher who taught the lesson and discussing what they liked about the lesson. Observers could then share critical feedback by supporting their statements with concrete evidence. For example, they could comment on specific observations from this particular lesson (e.g., "I saw student X do this…"), or make suggestions that draw upon their own experiences (e.g., "When I taught a similar lesson, I did _____ differently because…").
- Each observer can comment on a specific aspect of the lesson. Then the facilitator could allow other observers the opportunity to comment on this point or related aspects of the lesson. This procedure prevents the feedback session from becoming dominated by one observer and allows others to share their insights. If an observer would like to share something that is not being discussed at that point, then he or she can write it down for later.
- Similarly, the teacher(s) who planned/taught the lesson should wait until a few comments have been given before responding to the observers. This waiting prevents the discussion from becoming a "point-volleying session" and allows all participants to voice and absorb the feedback in a reflective manner. In addition, the facilitator should be responsible for proactively keeping the debriefing session on track.
- The timekeeper should remind the team when time is running short so that the team can meaningfully wrap up their debriefing session. If an outside advisor is present, then the feedback session should end with general comments from that person.

--Adapted from Chokshi, Ertle, Fernandez, and Yoshida, 2001

F-6. Is there a template that can be utilized to reflect on the Lesson Study Process?

Yes, a sample template can be found in Appendix F.

APPENDICES A-F

APPENDIX A

Appendix A-General Information Resource

This document discusses the linkage of the Instructional Review with Lesson Study.

Linking the Instructional Review and Lesson Study

The Instructional Review process provides the school with a report of the critical instructional issues facing the school, as well as directing attention to the actions needed to address these issues. Lesson Study is a tool for addressing some of the instructional issues identified by the Instruction Review process. For example, Lesson Study will teach the faculty how to instruct the students for the entire duration of the class period or increase the frequency of higher-order questions. Having a faculty to buy-in to new behaviors, skills, and activities in this way, transforms a school from low performing to high performing.

Lesson Study also builds the school's capacity for professional collaboration. Across time, with high quality implementation of Lesson Study, the faculty will develop the set of skills, knowledge, tools, use of data and commitment needed to carry out the improvement of the school in a systematic manner. Lesson Study is a powerful lever for change because it is ongoing, job-embedded, collaborative, and focuses on long term student learning. The first step in assisting a school in implementing Lesson Study is to discuss issues associated with common planning.

The direct links between the Instructional Review and Lesson Study include:

- Infrastructure issues
  Does the master schedule ensure common planning time?
  - Elementary: common planning time for all grade levels
  - Middle and High School: common planning time by content area
- Use of Time
  How is the common planning time used? During the Instructional Review, the team should examine this issue and determine:
  - When the teachers meet for common planning time, what is usually discussed?
    - Instructional Issues (examining student work, how to design a lesson)

If common planning time does not exist, then the first step for a school may be to amend the Master Schedule. If common planning time exists, then the school may focus on transforming the purpose of common planning time. Beginning the process of implementing Lesson Study will accomplish this goal.

Appendix A-General Information Resource

Integrating Lesson Study within Florida's PS/RtI Framework

Response to Instruction/Intervention

The approach referred to as PS/RtI is the practice of providing high quality instruction and intervention matched to student needs, using learning rate over time and level of performance to make important instructional decisions. PS/RtI involves the systematic use of assessment data to most efficiently allocate resources in order to improve learning for all students. At increasing levels of intensity, students who demonstrate educational needs beyond core instruction in order to meet expectations for positive behavior or academic content areas are provided with targeted, supplemental interventions delivered individually or in small groups.

The RtI framework is characterized by a fluid continuum of academic and behavior instructional supports. Three tiers are used to describe the level and intensity of the instruction/interventions as they are provided across the continuum as follows:

- **Tier 1: Core, Universal Instruction & Supports -** General academic and behavior instruction and support provided to all students in all settings.
- **Tier 2: Targeted, Supplemental Interventions & Supports -** More targeted instruction/intervention and supplemental support in addition to and aligned with the core academic and behavior curriculum.
- **Tier 3: Intensive, Individualized Interventions & Supports** - The most intense (increased time, narrowed focus, reduced group size) instruction and intervention based upon individual student need provided in addition to and aligned with Tier 1 & 2 academic and behavior instruction and supports.

The Problem-Solving Process

The problem-solving process is critical to making the instructional adjustments needed for continual improvement in student level of performance and rate of progress and for assessing (through students' response) the effectiveness of the instruction/interventions provided. Throughout the continuum of instruction and intervention, problem-solving is used to match instructional resources to educational need. The four critical parts of the problem-solving cycle are as follows:

1. Define the problem by determining the difference between what is expected and what is occurring. Ask, "What is that we want students to know and be able to do compared to what they know and are able to do?" When engaged in problem-solving at the individual student level, the team may strive for accuracy by asking, "What exactly is the problem?"

2. Analyze the problem using data to determine why the issue is occurring. Generate hypotheses founded in: evidence-based content area knowledge; alterable variables; and instructionally relevant domains. Link validated hypotheses to instruction/intervention. Ask, "Why is/are the desired goal(s) not occurring?"

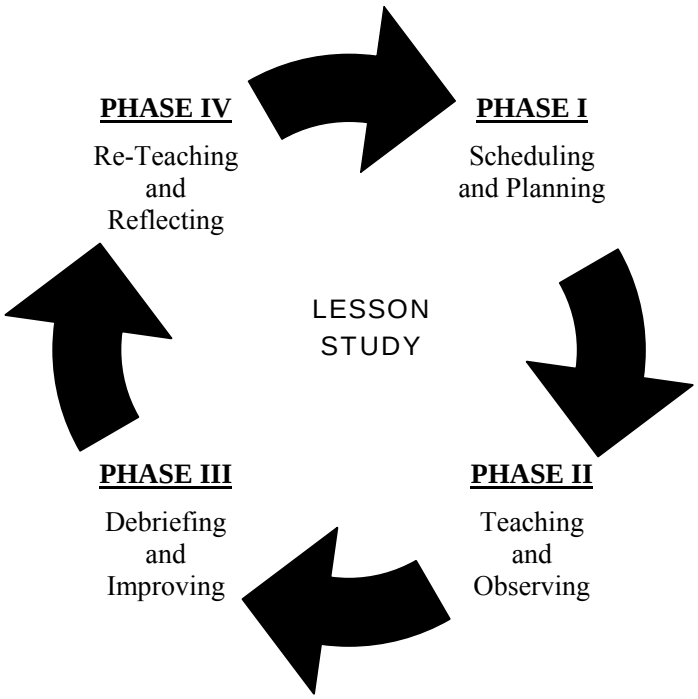
3. Implement a plan by establishing a student performance goal for the group or individual, developing an intervention plan to address the goal, and delineating how the student's or group of students' progress will be monitored and implementation ensured. Ask, "What are we going to do about it?"

4. Measure RtI by using progress monitoring data to evaluate the effectiveness of the intervention plan based on the student's or group of students' response to the intervention. Ask, "Is it working? If not, how will the intervention plan be adjusted to better support the student's or group of students' progress?"

The application of the problem-solving cycle across the three tiers is an essential component of a functional PS/RtI system. The underpinning idea is that the level of support a student needs to be successful exists on a continuum from those students needing no support beyond the core instruction and curriculum to those needing extraordinary scaffolding. Tiered resources are arranged along that continuum such that students have access to instruction/intervention at a level of intensity commensurate with their need.

Appendix A-General Information Resource

This document explains the Lesson Study Cycle.



A Possible Lesson Study Cycle
Depending upon the needs of the school and the level of readiness, the length of time for each Phase may vary.

School Year 2010-2011	**PHASE I** Scheduling and Planning	**PHASE II** Teaching and Observing	**PHASE III** Debriefing and Improving	**PHASE IV** Re-Teaching and Reflecting	**COMPLETION**
1st Quarter	3 Weeks	2 Weeks	3 Weeks	1 Week	Complete Cycle One
2nd Quarter	3 Weeks	2 Weeks	3 Weeks	1 Week	Complete Cycle Two
3rd Quarter	3 Weeks	2 Weeks	3 Weeks	1 Week	Complete Cycle Three
4th Quarter	3 Weeks	2 Weeks	3 Weeks	1 Week	Complete Cycle Four

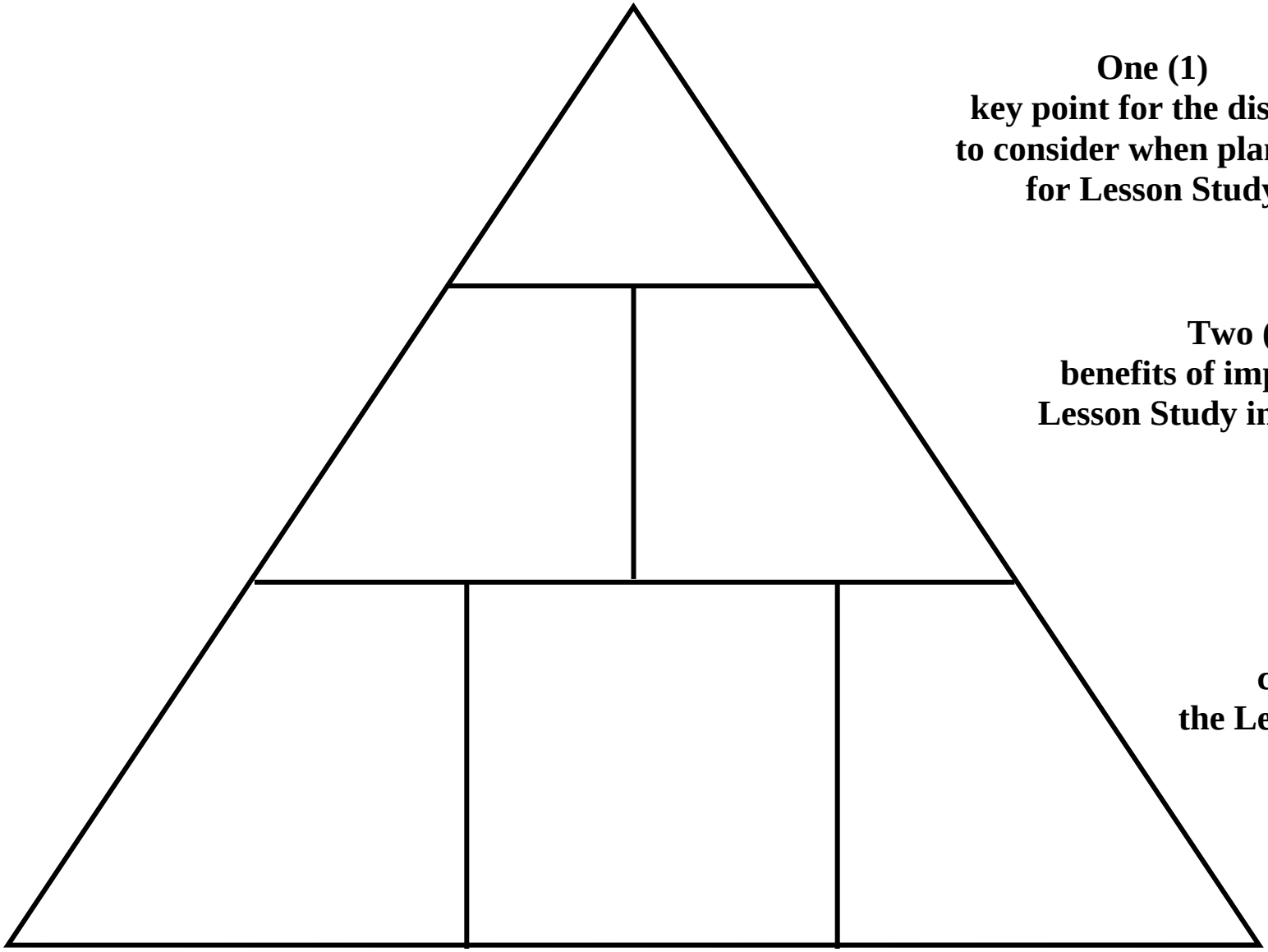
APPENDIX B

Appendix B-Guide to Introducing the Lesson Study Process Resource

This chart can be used to determine what educators already know about Lesson Study.

K	**W**	**Q**	**T**
What I **k**now about Lesson Study? *(Answered prior to discussion)*	What am I **w**ondering about Lesson Study? *(Answered after a general definition/introduction about Lesson Study)*	What **q**uestions do I still have about Lesson Study? *(Answered during discussion with colleagues)*	What are my colleagues' **t**houghts about Lesson Study? *(Answered following initial training session)*

3-2-1 BLAST OFF



One (1)
key point for the district
to consider when planning
for Lesson Study

Two (2)
benefits of implementing
Lesson Study in our schools

Three (3)
important
components of
the Lesson Study process

Appendix B-Guide to Introducing the Lesson Study Process Resource

This resource can be used to plan for future meetings.

School Name
Lesson Study Teams
SEPTEMBER 2010 SCHEDULE

DEPARTMENT & TEACHER NAMES	PHASE I: SCHEDULING/PLANNING	PHASE II: TEACHING/OBSERVING	PHASE III: DEBRIEFING/IMPROVING	PHASE IV: RE-TEACHING/REFLECTING
	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator
	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator
	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator
	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator:	Date: Time: Location: Facilitator:

Appendix B-Guide to Introducing the Lesson Study Process Resource

This resource can be used to plan for future meetings in the event that Lesson Study is not conducted within subject area departments.

Lesson Study Action Plan

Lesson Study Team (LST) Action Step	Person Responsible	Resources Needed	Date to Accomplish
Meet with our department PLC to share an overview of Lesson Study.			
Select the teachers who will participate in our LST.			
Establish our LST group norms and a communication plan.			
Determine the LST members who will teach our lesson.			
Determine the other LST members who will observe our lesson and collect data.			
Select the class in which our lesson will be taught.			
Formulate goals for student learning and development.			
Select an academic focus based on Next Generation Sunshine State Standards (NGSSS) and benchmarks. Create a Developmental Story for the standard being addressed.			
Select a research lesson to improve or utilize a lesson created by the LST.			
Anticipate student response and barriers to student learning and development.			
Improve our lesson with instructional strategies to address barriers related to goals.			
Identify our data points to measure the impact of instructional strategies.			
Create our data collection tools.			
Contact our DA Instructional Specialist to share our pre-planning progress.			
Conduct the improved lesson and collect evidence (data) on student learning and development.			
Hold a colloquium to discuss and analyze the lesson as soon as possible after instruction.			
Continue colloquium to reflect on lesson improvement and future application.			
Share with our department PLC the results of our Lesson Study.			
Set the dates and times set for the next Lesson Study cycle.			

Lesson Study Team Action Step	Person Responsible	Resources Needed	Date to Accomplish

Appendix B-Guide to Introducing the Lesson Study Process Resource

This can be used as a guide to implement Lesson Study.

Implementation Components:	**Suggested Activities**
Step 1 **Proposed Time**	Select dates that will work for all individuals involved.
Step 2 **Forming Team**	*Identify team norms and protocols: Team members will build consensus (grant permission) to go along with the total team (the majority).* 1. What are our expectations? 2. Generate a list of expectations. 3. How will we resolve our differences? (Members must agree to listen and focus on the problem rather than on the people involved.) 4. Members are encouraged to both support and challenge each other. 5. All members must agree to fulfill their specific responsibilities, to share the work equally as possible, and to maintain productive and respectful interactions.
Step 3 **Establishing the Research Theme (Long-Term Goal)**	• Before the Lesson Study team begins conducting research and planning the research lesson, participants identify a problem based on student learning data. • Establishing a theme (overarching goal) helps participants keep their eyes on the big picture and helps to tie long-term goals with short-term objectives. • *Suggestions*: Build on existing School Improvement Plan (SIP).
Step 4 **Choosing a Subject Area**	The subject area and benchmark of focus should be chosen based on data. Data should drive the instructional focus and alignment of lessons to the Next Generation Sunshine State Standards. Gather assessment data (FCAT and/or Baseline/Mid-Year). Disaggregate and analyze the data for patterns that emerge in areas of student weaknesses. *Guiding questions:* • What areas are challenging for our students? • What are common challenges from research on student learning? • What areas are difficult to teach?

Appendix B-Proposal for Introducing the Lesson Study Process Resources

This meeting log can be used to record the occurrences of each meeting.

Lesson Study Meeting Log

School/Team: Date:

Coach: Time:

Meeting Leader:

Meeting Recorder:

Main Purpose of Meeting
(Also attach the agenda that was handed out to team members.)

What we did:	Highlights of the discussion:

Appendix B-Guide to Introducing the Lesson Study Process Resource

This document can be used to plan for additional meetings.

Next Steps:

Next Steps:

The next meeting will be on _____ from _____to_____ in _____.
(date) (time) (location)

The meeting leader will be

_____.

The meeting recorder will be

_____.

The main agenda topic will be

_____.

Work assignments for the next meeting:

_____ will

_____

Name(s) Task

_____ will

_____

_____ will

_____

_____ will

_____

Appendix B-Guide to Introducing the Lesson Study Process Resource

These questions can be used to guide a reflection discussion.

Reflection Questions

1. How did the team discuss the subject/topic? Did they refer to how students learn the subject/topic and the essential elements of the subject/topic? In what ways?

2. In what ways did the team link their lesson to their broader goal?

3. Was the conversation open to all participants? For example, if the lesson was observed, did the entire team observe it? If the lesson was based on a textbook was everyone on the team familiar with the textbook? Were less experienced participants able to ask questions or propose ideas?

4. How did the team members reflect on their teaching practice? On student learning? On the group process? How did the group record its process? Did the group keeping track of generated ideas and revisions to the lesson?

APPENDIX C

Appendix C-Scheduling and Planning Resource

ROLES OF LESSON STUDY TEAM MEMBERS

This document can be used to further outline the role of each member of the Lesson Study team.

What roles can the instructional coaches or facilitators have in the Lesson Study process?

- Introduce Lesson Study to the team
- Appoint a record keeper for the discussion
- Apply protocols and group norms
- Ask reflective questions as needed to keep your group focused on their goals
- Make sure the conversation is not dominated by one or a few team members
- Assign roles and be sure all participants are aware of their responsibilities
- Commence the debriefing: introduce the team and outline the structure of the discussion
- Manage time to allow each team member the opportunity to speak

What roles can the teachers have in the Lesson Study process?

- Align the lesson to the Next Generation Sunshine State Standards and Benchmarks
- Ensure that lessons address the appropriate levels of cognitive complexity
- Promote the lesson design based upon ideas about how students learn best
- Observe student learning when the lesson is taught
- Anticipate student response
- Dialogue within the debriefing or colloquium
- Create, collaborate, develop, teach, practice, dialogue, refine, and research lessons
- Observe and collaborate in conversation about the effectiveness of the lesson
- Evaluate to determine if the lessons are helping students to learn
- Analyze and note observations of student learning both during and after the lesson
- Use the information obtained about student learning to revise the lesson and inform instructional practice
- Implement a variety of teaching methods and learning resources
- Promote cooperative learning

What role can the record keeper have in the Lesson Study process?

- Take notes of the debriefing
- Produce a summary of the debriefing for the Lesson Study report
- Make sure that the lesson summary is given to the team member who is taking responsibility for reporting your Lesson Study
- Use the Lesson Study Group Log to record attendance, summarize the learning and have a record of the work; provide a copy to the school principal and keep a copy for the group

What role can the administrator have in the Lesson Study process?

- Promote professional development for all staff members
- Provide training to all administrators
- Allocate time and funds for the Lesson Study groups to meet
- Arrange for Lesson Study group members to earn in-service credit
- Advocate for Lesson Study with the superintendent and school board
- Help identify and secure resources for Lesson Study groups
- Attend Lesson Study sessions to be knowledgeable about the work

What role can the outside advisor or outside expert have?

- Provide a different perspective when reacting to the Lesson Study work of the group
- Provide information about subject area content, new ideas, or reforms in the field of expertise
- Share the work of other Lesson Study groups

Appendix C-Scheduling and Planning Resource

These are examples of common planning that can foster Lesson Study.

Example 1: Elementary School/Common Planning/Team Planning

All teachers are self contained and teach all subject areas. Examples for implementing Lesson Study in this scenario:

- Rotate the subject area that will be focused on each month (August-Mathematics, September-Science, October-Reading, November-Social Studies).
- Determine the subject area and standard/benchmark focus according to the instructional needs of students at evidenced by student data (skills in need of improvement).
- Include ESE teachers, instructional coaches (reading, math, and science), paraprofessionals, and special area teachers as appropriate.

Example 2: Elementary School/Common Planning/Team Planning (Two Teams)

Teachers are teamed together for block scheduling. Examples for implementing Lesson Study in this scenario:

- Math/science/social studies teachers meet together while language arts/writing/reading teachers meet together.
  - Rotate the subject area that will be focused on each month (August-Mathematics, September-Science, October-Reading, November-Social Studies).
  - Determine the subject area and standard/benchmark focus according to the instructional needs of students as evidenced by student data (skills in need of improvement).
  - Include ESE teachers, instructional coaches (reading, math, and science), reading coaches, paraprofessionals, and special area teachers as appropriate.

Example 3: Middle School/Common Planning/Team Planning (One Team)

Teachers are teamed together for block scheduling. Examples for implementing Lesson Study in this scenario:

- Math/science/social studies teachers meet together while language arts/writing/reading teachers meet together.
  - Rotate the subject area that will be focused on each month (August-Mathematics, September-Science, October-Language Arts, November-Social Studies).
  - Determine the subject area and standard/benchmark focus according to the instructional needs of students as evidenced by student data (skills in need of improvement).
  - Include ESE teachers, instructional coaches (reading, math, and science), paraprofessionals, and special area teachers as appropriate.

Example 4: High School/Common Planning for Subject Area Teachers

Teachers are teamed together by subject area for block scheduling. Examples for implementing Lesson Study in this scenario:

- Determine the NGSSS benchmark focus according to the instructional needs of students as evidenced by student data (skills in need of improvement).
- Include ESE teachers, instructional coaches (reading, math, and science), paraprofessionals, and special area teachers as appropriate.

Appendix C-Scheduling and Planning Resource

These are sample schedules with common planning periods.

JayCee K-12 School 2010-11 Master Schedule
Elementary School

Note: III is immediate, intensive intervention for the most struggling readers.

	35 minutes	90 minutes	30 minutes	45 minutes	45 minutes	30 minutes	60 minutes	55 minutes	45 minutes
Teachers	7:30 -8:05	8:05 - 9:35	9:35 - 10:05	10:05 - 10:50	10:50 - 11:35	11:35 - 12:05	12:05 - 1:05	1:05 - 2:00	2:00 - 2:45
Anderson	Homeroom / III	Reading For All	Social Studies	Language Arts & Writing	Computer Lab	Lunch	Math	Science	**Grade 3 Lesson Study: Example 1 Common Planning for all teachers**
Jennings	Homeroom / III	Reading For All	Social Studies	Computer Lab	Language Arts & Writing	Lunch	Math	Science	
Monroe	Homeroom / III	Reading For All	Social Studies	Language Arts & Writing	Computer Lab	Lunch	Math	Science	
Pace	Homeroom / III	Reading For All	Social Studies	Language Arts & Writing	Computer Lab	Lunch	Math	Science	
Green	Homeroom / III	Reading For All	Social Studies	Computer Lab	Language Arts & Writing	Lunch	Math	Science	

Example 1: Third Grade/Common Planning/Team Planning

All teachers are self contained and teach all subject areas. Examples for implementing Lesson Study in this scenario:

- Rotate the subject area that will be focused on each month. (August-Mathematics, September-Science, October-Reading, November-Social Studies)
- Determine the subject area and benchmark focus according to the instructional needs of students at evidenced by student data (skills in need of improvement).
- Include ESE teachers, instructional coaches (reading, math, and science), paraprofessionals, and special area teachers as appropriate.

JayCee K-12
2010-11 Master Schedule
Elementary School

Note: III is immediate, intensive intervention for the most struggling readers.

15 minutes		90 minutes	90 minutes	45 minutes	45 minutes	30 minutes	45 minutes	75 minutes
7:30 - 7:45	Teachers	7:45 -9:15	9:15-10:45	10:45-11:30	11:30 - 12:15	12:15 - 12:45	12:45 - 1:30	1:30 - 2:45
Homeroom / III	Berry	Math/Social Studies Berry	Math/Social Studies Phillips	Science Phillips	**Example 2 Team Planning** Math/Science Social Studies (Berry and McQueen)	Lunch	Science Berry	Computer Lab
Homeroom / III	Phillips	Reading Phillips	Reading Berry	Language Arts & Writing Berry		Lunch	Language Arts & Writing Phillips	Computer Lab
Homeroom / III	McQueen	Math/Social Studies McQueen	Math/Social Studies Pompey	Science Pompey	**Example 2 Team Planning** Language Arts Writing (Phillips and Pompey)	Lunch	Science McQueen	Computer Lab
Homeroom / III	Pompey	Reading Pompey	Reading McQueen	Language Arts & Writing McQueen		Lunch	Language Arts & Writing Pompey	Computer Lab

Example 2: Common Planning/Team Planning (Two Teams)

Teachers are teamed together for block scheduling. Examples for implementing Lesson Study in this scenario:

- Math/science/social studies teachers meet together while language arts/writing teachers meet together.
  - Rotate the subject area that will be focused on each month. (August-Mathematics, September-Science, October-Reading, November-Social Studies)
  - Determine the subject area and benchmark focus according to the instructional needs of students at evidenced by student data (skills in need of improvement).
  - Include ESE teachers, instructional coaches (reading, math, and science), paraprofessionals, and special area teachers as appropriate.

JayCee K-12 School
2010-11 Master Schedule
Middle School

Note: III is immediate, intensive intervention for the most struggling readers.

	35 minutes	90 minutes	30 minutes	45 minutes	45 minutes	45 minutes	30 minutes	60 minutes	55 minutes
Teachers	7:30 -8:05	8:05 - 9:35	9:35 - 10:05	10:05 - 10:50	10:50 - 11:35	11:35 - 12:20	12:20 - 12:50	12:50 - 1:50	1:50 - 2:45
Marchessault	Homeroom	Reading For all	Science	Language Arts & Writing (Class 1)	**Example 3 Common Planning for all teachers**	Computer Lab	Lunch	Language Arts & Writing (Class 2)	Language Arts & Writing (Class 3)
	III								
Vitti	Homeroom	Reading For all	Science	Math (Class 3)		Computer Lab	Lunch	Math (Class 1)	Math (Class 2)
	III								
Crum	Homeroom	Reading For all	Science	Science Social Studies (Class 2)		Computer Lab	Lunch	Science Social Studies (Class 3)	Science Social Studies (Class 1)
	III								

Example 3: Common Planning/Team Planning (One Team)

Teachers are teamed together for block scheduling. Examples for implementing Lesson Study in this scenario:

- Math/science/social studies teachers meet together while language arts/writing teachers meet together.
  - Rotate the subject area that will be focused on each month. (August-Mathematics, September-Science, October-Language Arts, November-Social Studies)
  - Determine the subject area and benchmark focus according to the instructional needs of students at evidenced by student data (skills in need of improvement).
  - Include ESE teachers, instructional coaches (reading, math, and science), paraprofessionals, and special area teachers as appropriate.

JayCee K-12 School
2010-11 Master Schedule
High School

Note: III is immediate, intensive intervention for the most struggling readers.

	01	02	03	04	05	06	07	08
TEACHERS/CLASSES								
Anderson	A40-06 English 4 A212	A40-03 English 4 A212	R40-04 Intensive Reading	**Example 4 Common Planning for all subject area teachers**	R40-03 Intensive Reading	R40-06 Intensive Reading	R40-09 Intensive Reading	R40-11 Intensive Reading
	10th Grade	10th Grade	11th and 12th Grade		11th and 12th Grade	11th and 12th Grade	11th and 12th Grade	11th and 12th Grade
Green	R40-10 Intensive Reading	R40-07 Intensive Reading	R40-05 Intensive Reading		R40-01 Intensive Reading	R40-08 Intensive Reading	R11-02 Intensive Reading	R40-02 Intensive Reading
	11th and 12th G 9240 23 of 28	11th and 12th G 9240 20 of 28	11th and 12th G 9240 14 of 28		11th and 12th G 9240 26 of 28	11th and 12th G 9240 26 of 28	9240 19 of 30	11th and 12th G 9240 21 of 28
Pace	A01-01 English 1	A80-01 English 1	R80-01 Intensive		A10-04 English 1	R10-01 Intensive	A10-05 English 1	R10-03 Intensive
			Reading			Reading		Reading
Vitti	ESOL	ESOL	Plus/III		ESOL	Plus/III	ESOL	Plus/III
			D522 19 of 30			D522 22 of 30		D522 15 of 30

Example 4: Tenth Grade/Common Planning for Subject Area Teachers

Teachers are teamed together by subject area for block scheduling. Examples for implementing Lesson Study in this scenario:

- Determine the NGSSS benchmark focus according to the instructional needs of students at evidenced by student data (skills in need of improvement).
- Include ESE teachers, instructional coaches (reading, math, and science), paraprofessionals, and special area teachers as appropriate.

Appendix C-Scheduling and Planning Resource

This document can serve as a tip sheet for preparing a successful Lesson Study.

Planning For Lesson Study

Create a meeting schedule

Consider several alternatives for dates for the meetings; try not to select dates that coincide with other activities or vacation days. During the first meeting time, the team reviews the lesson, makes modifications to the lesson or creates a lesson. During the second meeting time, the team observes one member teach the lesson while the rest gather data. Following the teaching of the lesson, the team meets for colloquium or debriefing. This can occur immediately or after school that day.

Find and secure a place

The location should be easily accessible to the team, with adequate seating, and appropriate outlets for any technology you plan to use.

Contact the attendees

Contact the people you would like to attend the Lesson Study, offering alternative dates for the training. Notify the team members of the meeting time and place. Establish a system for notifying members in case of an emergency or postponement.

Review the materials needed

Make sure all needed materials for the lesson and the meeting is available (chart paper, magic markers, post-it notes, highlighters, notebooks, paper, pens, pencils, flip chart, dry- erase markers).

Think about the outcomes

What do you want to accomplish with the team? Try to make a mission statement to share with the team during your first meeting. Example: "Lesson Study is a professional learning design. It is a cycle of instructional improvement focused on planning, observation, and revision of actual 'research lessons.' Through Lesson Study we will deepen our knowledge of content, pedagogy, student thinking and our access to knowledgeable colleagues to improve instruction."

<u>Before Each Meeting</u>

- Review the lesson plan to be used.
- Review any print materials that accompany the lesson.
- Decide on a time frame for the session.
- Gather any materials needed for the discussion or activities.
    - Copy the lesson for all team members
    - Pull manipulatives/lab equipment/books needed
- Familiarize yourself with the equipment to be used.

Sample Schedule

Planning/reviewing the lesson	45 minutes	Common Planning
Teaching the lesson	45 minutes	Class Period
Debriefing - Colloquium	60 minutes	After School

During Each Meeting

- Greet the team and explain why they have been assembled.
- Give a *brief* overview of what they will do during the session.
- Go over the appropriate protocols for the meeting.
- Try to present a mix of talking, watching and doing during each session.
- Set a purpose for the session by selecting a question for discussion from the guide, or use a question of your own choosing. For example, an initial Lesson Study might consider one of the following questions:
    - What knowledge and skills do we need to function as a professional learning community?
    - What avenues are in place for teachers to share what we learn?
    - How frequently do teachers talk about our work and exchange information and ideas?
- Watch the time carefully and adjourn on time. Talk about your next session, reminding the team about time, date, and place.

I. Forming Team

Identify team norms and protocols-Team members will build consensus (grant permission) to go along with the total team (the majority).

1. What are our expectations?

2. Generate a list of expectations-For example, "I expect that my colleagues will share their opinions respectfully, even if we disagree." (Everyone must contribute)

3. How will we resolve our differences? (Team members must agree to listen and focus on the problem rather than on the people involved.)

4. Members are encouraged to both support and challenge each other.

5. All members must agree to fulfill their specific responsibilities, to share the work equally as possible, and to maintain productive and respectful interactions.

II. Establish the Research Theme (long-term goal)
Before the Lesson Study team begins conducting research and planning the research lesson, participants identify a problem or research theme based on student learning data. A theme helps participants keep their eyes on the big picture and connect long-term goals with short-term objectives. The theme helps participants to focus on the *why*, rather than the *what* or *how*. The theme will help team members focus on the Southern Regional Education Board (SREB) Five E Culture (Engagement, Equity, Effort, Expectations and Efficacy) of successful schools as well. Suggestions: Identify ideal student qualities from mission statement, build on existing school improvement goals, use student achievement data, or combine all three types of data.

III. Choosing a Subject Area or Single Lesson or Unit

Directions:
1. Participants should select a template (A or B) to design a coherent, thoughtful lesson. They are to write and refine a lesson that meets this objective:
    - Students will solve logic problems using problem-solving skills. (Use any of the puzzles that follow.)

Once you have it as "perfected" as possible, decide who will teach it to the "students" (who may be another teaching group). Anyone can teach the approved lesson; Lesson Study is not about the idiosyncrasies of a teacher; it is about a joint effort to improve a lesson. It is about seeing what happens when the lesson is taught.

2. Also decide what data you want to collect and assign every other member of the teaching team to be observers for part of the data you want. Here are some samples of data you might want to collect:
    - Questions that come to your mind as you observe
    - Critical things that are happening in the classroom
    - Types of questions the students asked
    - Types of questions the teacher asked
    - Evidence of higher-level thinking
    - Evidence of skill
    - Evidence of confusion
    - Percent of students who raised hands
    - Body language and "aha" moments
    - Shifts in thinking that are evident
    - Number of times students refer to and build on classmates' comments
    - Evidence of engagement
    - Following the lesson and deviations from the lesson

3. The teacher will teach the lesson, as decided upon by the team with the rest of the team arranged around the students, collecting data as unobtrusively as possible. (Note: The teacher should feel free to adapt the lesson if needs arise but should be sure to note when and why the lesson needed adaptation in order to share that information with the team during the colloquium.)

Appendix C-Scheduling and Planning Resource

This sample template can be used for planning a lesson.

TEMPLATE A

Planning a Coherent and Thoughtful Lesson

Day and Date of Lesson _____

Name of Unit _____

1. Unit goal, essential question, problem, project:

2. Unit outcome/product:

3. How THIS lesson fits with #1 and #2:

4. Desired outcome/product for this lesson (what you want at the end; what students should know and be able to do at the end):

SKILL	KNOWLEDGE	HABITS OF MIND

5. Criteria for judging outcomes/products…(rubric)? How will you know that students have learned the skills/knowledge/habits of mind described above?

DESIRED OUTCOMES	CRITERIA FOR JUDGING OUTCOMES **
SKILL	
KNOWLEDGE	
HABITS OF MIND	

**NOTE: Implies that students need to have learned these skills in order to achieve the outcome; thus, they become what the teacher teaches.

6. What aspects of the criteria will you need to teach? Review?

CRITERIA FOR	TEACH? REVIEW?
Skills	
Knowledge	
Habits of Mind	

7. What background knowledge/skills/habits of mind do you expect students to bring to this lesson? What pre-assessment will assure you they have these capabilities? How will you engage students in terms of background knowledge/skills/habits of mind?

8. How will you begin the lesson? Why? What's the logic? What's the connection?

9. What is the connection between this lesson and yesterday's lesson? What is the connection between this lesson and the overall unit goal (#1 and #2)?

10. What activities come next in the lesson? Why? What's the logic? What's the connection?

ACTIVITIES	LOGIC/CONNECTION

11. How will you get feedback about how students are doing during the lesson (formative assessment)? How will you adjust if students are not learning?

12. How will you determine that students have achieved the goal/outcome of this lesson? Quiz? Exit cards? Project? Formative Assessments? Other?

13. How will you end the lesson? How will you prepare students for the next day? How will you help students get closure?

Appendix C-Scheduling and Planning Resource

This sample template can be used for planning a lesson.

TEMPLATE B (Format 1)
Planning a Coherent and Thoughtful Lesson
Using the Instructional Guide Template

Example:
(Based upon FDOE provided Instructional Delivery Guide Template)

Benchmark Exposure:

Lesson Objective:

Essential Question:

Higher Order Questions:

How is _____, _____, _____, similar to or different from _____?

Opening Activity:

Whole Group Activity:

Vocabulary:

Homework:

Cooperative Learning:

Technology:

Literature:

Learning Centers:

Differentiated Instruction:

Closing Activity:

1. As soon as possible after the lesson, the team should reconvene for the colloquium. The colloquium begins with the comments of the teacher (particularly what worked and what didn't work), while team members listen without interruption. Then, the data collectors should report what they noticed, while the teacher listens without interruption. Data collectors should use their collateral evidence (collected work samples, collected observational notes, etc.) as a basis for their comments. If it's possible to have the students present, then they should report what they experienced. A recorder can keep track of the information.

2. During the colloquium, participants should make recommendations on how to improve the lesson and a decision should be made about whether or not to re-teach it or apply learning to the next lesson to be studied.

Appendix C-Scheduling and Planning Resource

This sample template can be used for planning a lesson.

TEMPLATE B (Format 2)
Planning a Coherent and Thoughtful Lesson Using the Instructional Guide Template

Example:

(Based upon DOE provided Instructional Delivery Guide Template)

FOCUS LESSONS ANNUALLY ASSESSED BENCHMARK(S)	**JOURNAL PROMPTS VOCABULARY ACTIVITIES**	**VOCABULARY WORDS**
M- **T-** **W-** **R-** **F-**	**M-** **T-** **W-** **R-** **F-**	

HIGHER ORDER QUESTIONS	**WHOLE GROUP INSTRUCTION** Daily Lesson: Textbook Correlation and/or Supplemental Activities	**HOMEWORK** Computation/Follow-Up Activity
	M- **T-** **W-** **R-** **F-**	**M-** **T-** **W-** **R-** **F-**

DIFFERENTIATED INSTRUCTION Small Group: Intensive	**DIFFERENTIATED INSTRUCTION** Small Group: Proficiency	**DIFFERENTIATED INSTRUCTION** Small Group: Enrichment	**ASSESSMENT** Progress Monitoring
List students and strategies/assignment(s) created to remediate/re-teach NGSSS benchmarks _____	List students and strategies/assignment(s) created to maintain proficiency on NGSSS benchmarks _____	List students and strategies/assignment(s) created to provide enrichment on NGSSS benchmarks _____	*Utilize data from progress monitoring to determine the appropriate level of Response to Intervention (RtI) services

TECHNOLOGY LITERATURE		**CENTERS** (Learning Stations)	

RtI Tier I Instruction/Interventions Based on progress monitoring and data analysis.	**RtI Tier II Instruction/Interventions** Based on progress monitoring and data analysis.	**RtI Tier III Instruction/Interventions** Based on progress monitoring and data analysis.

***Note:** This template allows for the planning of Differentiated Instruction needed to address the instructional needs of small groups and/or individual students as determined by student data. In addition, based on progress monitoring and data analysis, RtI services can be planned.

APPENDIX D

Appendix D-Teaching and Observing Resource

This template can be used during the observation process.

Lesson Study Observation Form

Benchmark: **Lesson Objective:** **Content Area:**	**Date of Observation Lesson:_____** **Names of the students:** _____ _____. **Notes about students:** _____ _____. **Anticipated problems:** _____ _____.
Teacher says or does……	Students say or do …
Criteria for judging whether objective was met:	Was the objective met? Why or Why not?

APPENDIX E

Appendix E-Debriefing and Improving Resource

Southern Regional Education Board Unit Planning Template

This template can be used for improving lessons during Phase III.

SREB

Instructional Planning Template

Southern
Regional
Education
Board

592 Tenth Street,
NW
Atlanta, GA 30318
(404) 875-9211
www.sreb.org

Updated: 3/29/2006

Unit Plan Template Overview

The unit plan template includes elements necessary for comprehensive instructional plans. These units should include Next Generation Sunshine State Standards (NGSSS) to be addressed, assessments, instructional activities, including literacy strategies and habits of success. These units are usually developed in two- to three-week segments. Unit plans can be evaluated both holistically and analytically using rubrics based on a four-point scale. Unit plans should include the following:

- The NGSSS that are being addressed.
- The level of intellectual demand students are expected to meet at the end of this instructional plan. Require teachers to move beyond recall/procedural skills to the proficient level of comprehension/analysis and the advanced level of application.
- Evidence that teachers will accept as proof that students have not only met the basic level required for this standard, but have moved on to at least a proficient level of performance.
- Major assignments to be given to students and how teachers will make them engaging and authentic in ways that will motivate students. Each unit should include a variety of activities that help all students be successful in meeting rigorous NGSSS.
- An outline of the major study skills, literacy skills, and the research-based instructional strategies teachers will use in helping students master the standards.
- Details of what students' major instructional activities will be in class and what they are expected to do outside of class.

Unit Plan Template

Unit Title:
Course Name:
Grade Level:
Unit Overview:
Timeframe: _____ - _____ minute classes
Lesson Objective:
Prerequisite knowledge/skills:
Essential Questions (Open-ended style which promotes in-depth investigation):
SREB Readiness Indicators:
Next Generation Sunshine State Standards (NGSSS):
Cognitive Complexity: Low Complexity Question(s)
Cognitive Complexity: Moderate Complexity Question(s)
Cognitive Complexity: High Complexity Question(s)
Acknowledgements:

Unit Plan Template

Literacy Strategies *(Check all that apply.)*	Habits of Success *(Check one per unit.)*
(To be developed throughout the unit plan with ample opportunities for practice.)	
____ Admit/Exit slips ____ Graphic organizer ____ Know/Want to Know/Learn Chart (KWL) ____ Open-response questions ____ Two-column/Cornell notes ____ Re-telling ____ Reflection ____ Jigsaw reading ____ Peer Review ____ Peer Editing ____ Anticipation Guide ____ RAFT *(Role/Audience/Format/Topic)* ____ Summarization (GIST) *(Generating Interactions Between Schemata and Text)* ____ Paired Reading ____ Other	1. ___ Create Relationships Teamwork/responsibility/effective communication 2. ___ Study, Manage Time, Organize Organization/time management/study skills 3. ___ Improve Reading/Writing Skills Use reading and writing to learn strategies 4. ___ Improve Mathematics Skills Estimate/compute/solve/synthesize 5. ___ Set Goals/Plan Set goals/plan/monitor progress 6. ___ Access Resources Research/analyze/utilize

Assessments: Pre-Test, Daily/Weekly and Post
Pre-test:
Daily/Weekly: (Included on daily activities plans)
Post-assessment consists of two parts:
1. Content-based (traditional paper and pencil test) 2. Performance - or product-based

Unit Title: _____ Day _____ of _____

Readiness Indicator(s) for Today's Activities	
# ____	
# ____	
State/District Standard(s) for Today's Activities	
# ____	
# ____	
# ____	

Anticipated Times * (90-minute Block Schedule)	Sequence of Instruction	Activities Checklist
____ minutes (3)	Get Started	___ Admit slip ___ Post/discuss/copy objectives ___ Write in journal ___ Solve problems ___ Answer questions ___ Pre-assessment ___ Other _____
____ minutes (5)	Engage	___ Display object/picture ___ Demonstrate reaction ___ Model/demonstrate lab ___ Discuss previous experiences ___ Other _____
____ minutes (15)	Explore	___ Brainstorm ___ Create lists ___ Investigate ___ Build model ___ Work problem ___ Analyze data ___ Lab activity ___ Evaluate steps ___ Other _____
____ minutes (15)	Explain	___ Lecture with guided notes ___ Student presentations ___ Media presentation ___ Interactive discussion ___ Other _____
____ minutes (10)	Practice Together	___ Complete practice problems/labs ___ Use manipulatives ___ Construct graph/timelines ___ Make predictions ___ Collaborative writing ___ Whole group graphic organizers ___ Other _____

* The blocks of time for the sequence of instruction are suggested as a pacing guide. Some activities may take more time than suggested, and every element in the sequence of instruction may not occur everyday.

Daily Activities Plan Template

____ minutes (10)	Practice in Teams/groups/buddy-pairs	____ Solve similar problems ____ Practice active reading strategies ____ Answer questions ____ Peer review/edit ____ Design other problems/questions/labs ____ Research information ____ Other _____
____ minutes (10)	Independent Practice	____ Draft writing ____ Answer questions/problems ____ Design/construct other problems/ questions/labs ____ Revise work ____ Design individual investigation/project ____ Other _____
____ minutes (15)	Evaluate understanding (Daily/Weekly/Post-Assessment)	____ Discussion ____ Open-response question(s) ____ Quiz/test (academic/authentic) ____ Writing sample ____ Individual project/investigation/ presentation ____ Other _____
____ minutes (5)	Closing Activities	____ Assign/explain homework ____ Review major points ____ Answer questions ____ Student reflection activity ____ Exit slip ____ Other _____
____ As Needed	Enrichment/Extension/Re-teaching/ Accommodation(s)	____ Review ____ Practice ____ Reading ____ Tutoring ____ Individual assignment ____ Other _____

Resources/Instructional Materials Needed:

Notes:

Course Name:
Grade Level:
Unit Overview:
Timeframe: _____ - _____ minute classes
Prerequisite knowledge/skills:
Essential Questions (Open-ended style which promotes in-depth investigation):
1. 2. 3. 4.
SREB Readiness Indicators:
Next Generation Sunshine State Standards (NGSSS):
Acknowledgment(s):

Literacy Strategies *(Check all that apply.)*	Habits of Success *(Check one per unit.)*
(To be developed throughout the unit plan with ample opportunities for practice.)	
____ Admit/Exit slips ____ Graphic organizer ____ Know/Want to Know/Learn Chart (KWL) ____ Open-response questions ____ Two-column/Cornell notes ____ Re-telling ____ Reflection ____ Jigsaw reading ____ Peer Review ____ Peer Editing ____ Anticipation Guide ____ RAFT *(Role/Audience/Format/Topic)* ____ Summarization (GIST) *(Generating Interactions Between Schemata and Text)* ____ Paired Reading ____ Other	1. ___ Create Relationships Teamwork/responsibility/effective communication 2. ___ Study, Manage Time, Organize Organization/time management/study skills 3. ___ Improve Reading/Writing Skills Use reading and writing to learn strategies 4. ___ Improve Mathematics Skills Estimate/compute/solve/synthesize 5. ___ Set Goals/Plan Set goals/plan/monitor progress 6. ___ Access Resources Research/analyze/utilize

Assessments: Pre-test, Daily/Weekly and Post
Pre-test:
Daily/Weekly: (Included on daily activities plans)
Post-assessment consists of two parts:
1. Content-based (traditional paper and pencil test) 2. Performance - or product-based

Unit Title:

Day _____ of _____

Readiness Indicator(s) for Today's Activities	
# ____	
# ____	
State/District Standard(s) for Today's Activities	
# ____	
# ____	
# ____	
# ____	
# ____	
# ____	

Time (90-minute Block Schedule)	Sequence of Instruction	Activities Checklist	
____ minutes (3)	Get Started	___ Admit slip ___ Post/discuss/copy objectives ___ Write in journal ___ Solve problems ___ Answer questions ___ Pre-assessment ___ Other _____	
____ minutes (5)	Engage	___ Display object/picture ___ Demonstrate reaction ___ Model/demonstrate lab ___ Discuss previous experiences ___ Other _____	
____ minutes (15)	Explore	___ Brainstorm ___ Investigate ___ Work problem ___ Lab activity	___ Create lists ___ Build model ___ Analyze data ___ Evaluate steps
		___ Other _____	

____ minutes (15)	Explain	___ Lecture with guided notes ___ Student presentations ___ Media presentation ___ Interactive discussion ___ Other _____
____ minutes (10)	Practice Together	___ Complete practice problems/labs ___ Use manipulatives ___ Construct graph/timelines ___ Make predictions ___ Collaborative writing ___ Whole group graphic organizers ___ Other _____
____ minutes (10)	Practice in Teams/Groups/Buddy-pairs	____ Solve similar problems ____ Practice active reading strategies ____ Answer questions ____ Peer review/edit ____ Design other problems/questions/labs ____ Research information ____ Other _____
____ minutes (10)	Practice Alone	____ Draft writing ____ Answer questions/problems ____ Design/construct other problems/ questions/labs ____ Revise work ____ Design individual investigation/project ____ Other _____
____ minutes (15)	Evaluate Understanding (Daily/Weekly/Post-Assessment)	____ Discussion ____ Open-response question(s) ____ Quiz/test (academic/authentic) ____ Writing sample ____ Individual project/investigation/ presentation ____ Other _____
____ minutes (5)	Closing Activities	____ Assign/explain homework ____ Review major points ____ Answer questions ____ Student reflection activity ____ Exit slip ____ Other _____
____ As Needed	Enrichment/Extension/Re-teaching/ Accommodation(s)	____ Review ____ Practice ____ Reading ____ Tutoring ____ Individual assignment ____ Other _____

Resources/Instructional Materials Needed:

Notes:

TEAM ___: ___ GRADE MATHEMATICS LESSON

Date:
Grade:
Period and Location:

Instructor:

I. Background information

A. Goal of the Lesson Study Team:

B. Narrative Overview of Background Information:

II. Unit Information

A. Name of the unit:

B. Goal(s) of the unit:

C. How this unit is related to the curriculum:

D. Instructional sequence for the unit:

III. Lesson Information

A. Name of the study lesson:

B. Goal(s) of the study lesson:

C. How this study lesson is related to the Lesson Study goal:

D. Process of the study lesson:

Appendix E-Debriefing and Improving Resource
These questions can be used for debriefing and colloquium.

Convene Colloquium Part I Date Time
The LST meets to discuss and analyze the lesson as soon as possible after instruction.

- *Possible facilitator questions may include:*
  - Will the teacher of our lesson please share what worked and what did not from his/her perspective? (Allow the teacher at least three minutes of uninterrupted time.)
  - Will the data collectors please report on the evidence gathered on each data point? (Redirect data collectors as necessary to report data specific to designated data points.)
  - What are the trends in the collected data? (Allow the members ample time to analyze and reflect on the data.)

Convene Colloquium Part II Date Time
The LST analyzes data and discusses ways to revise the research lesson and apply learning to future lesson planning and delivery.

- *Possible facilitator questions may include:*
  - What were our student learning and development goals?
  - Did the students achieve our goals? What data supports that?
  - Which elements of our lesson contributed to student learning outcomes?
  - What data supports that?
  - What does the data mean in terms of revising our lesson?
  - What unanticipated barriers may have impacted student goals?
  - How can we apply what we learned from the data to our next lesson?
  - What did we learn from our experience?

Share Results with Department PLC Date Time
The LST shares results of the Lesson Study Cycle with its Department PLC.

Launch the Next Lesson Study Cycle Date Time
The LST sets a date and time to launch the next Lesson Study Cycle.

Appendix E-Debriefing and Improving Resource
This format can be used for debriefing and colloquium.

DEBRIEFING and PLANNING for NEXT YEAR

District Leadership, School Leadership,
School Instructional Coaches, and Department Chairs

Inner/Outer Circles for LST Facilitators and Department Chairs
1. What successes/challenges did your LST have within the "pre-planning" for your pilot Lesson Study?
    a. Establishing group norms and a communication plan
    b. Developing goals for student learning and development
    c. Anticipating barriers and selecting instructional strategies to improve the lesson
    d. Identifying data points and creating data collection tools

Inner/Outer Circles for LST Facilitators and Department Chairs
2. Share two key findings/outcomes from your colloquium that your LST or PLC can apply to future lesson planning and delivery to improve student learning.

Inner/Outer Circles for LST Facilitators and Department Chairs
3. What would you do differently during the next cycle to improve these processes and outcomes?

Inner/Outer Circles for Observers
4. As an observer of the lesson instruction, data collection, and colloquium, share a "wow" or "ah ha" moment.

Whole Group Q&A
5. *Open Forum for Questions and Answers*

Whole Group Discussion focused on the School
6. *Guiding Questions*
How will the Lesson Study process grow strategically next year?
Which content areas? Which teachers?
How long for each cycle? How many cycles?
How will you train and support more facilitators?

Whole Group Discussion focused on the District
7. *Guiding Questions*
What findings/outcomes from the pilot are important in rolling out Lesson Study across the district?
How can the experience of these participants be used during the roll-out?
What is the timeline for district training on Lesson Study? Who will present? Which schools? Which participants?
How will district leadership provide ongoing Lesson Study support?

CELEBRATING and PLANNING the NEXT CYCLE

All Lesson Study Participants

Inner/Outer Circles for Lesson Study Members

1. *Guiding Questions*

What were the benefits to you as a participant in the pilot Lesson Study?
What were some of the stressors during Lesson Study? How did your LST address them?
How will you apply what you learned from this experience to future teacher collaboration as well as lesson planning and delivery?
What suggestions do you have for the school to expand Lesson Study across the school?
What suggestions do you have for the district to build capacity for Lesson Study at other schools?

Whole Group Q&A

2. Open Forum for Questions and Answers

Whole Group Celebration

3. Recognition of Lesson Study Participants
4. Comments from School and District Leaders

APPENDIX F

Appendix F-Re-teaching and Reflecting Resource

This document can be used as a guide to analyze student work.

A Process for Looking at Student Work

Author(s): David Allen, Joe McDonald

Outcome: Participants will:

- use the collaborative experience of looking closely at student work.
- become familiar with a tuning protocol.

Time: 60 minutes [10:50-11:50]

Description:

The "tuning protocol" was developed by David Allen and Joe McDonald at the Coalition of Essential Schools primarily for use in looking closely at student work. In the outline below, unless otherwise noted, time allotments indicated are the suggested minimum for each task. The tuning protocol may be facilitated by someone from inside or outside the team using it.

Materials Needed:

Pages in notebook _____

Student work entitled, "A Piece of Student Work to Analyze", pages _____

Instructions:

I. Introduction [10 minutes]. Facilitator briefly introduces protocol goals, norms, and agenda. Participants briefly introduce themselves.

II. Teacher Presentation [20 minutes]. Presenter describes the context for student work (its vision, coaching, scoring rubric, etc.) and presents samples of student work.

III. Clarifying Questions [15 minutes maximum]. Facilitator judges if questions more properly belong as warm or cool feedback than as clarifiers.

IV. Pause to reflect on warm and cool feedback [2-3 minutes maximum]. Participants make note of "warm," supportive feedback and 'cool," more distanced comments (generally no more than one of each).

V. Warm and Cool Feedback [15 minutes]. Participants among themselves share responses to the work and its context; teacher-presenter is silent. Facilitator may lend focus by reminding participants of an area of emphasis supplied by teacher-presenter.

VI. Reflection/Response [15 minutes]. Teacher-presenter reflects on and responds to those comments or questions he or she chooses to. Participants are silent. Facilitator may clarify or lend focus.

VII. Debrief [10 minutes]. Beginning with the teacher-presenter ("How did the protocol experience compare with what you expected?"), the team discusses any frustrations, misunderstandings, or positive reactions participants have experienced. More general discussion of the tuning protocol may develop.

Closure and Linking:

Ask participants to take some time to reflect and respond in writing using the "Activity Reflection" form. Afterwards, they may share their thoughts at their tables, then ask for volunteers to share out to the entire team.

Other Approaches to Looking at Student Work:

Slice

Developed by Joseph McDonald and others. The Slice is a flexible method that requires collecting all student work completed in a specified context over a specified period of time (for example, all third grade work for one week). Participants in the Slice method use this archive of material to pursue an inquiry question, typically framed by teachers. A number of structures can be created around the "reading" of the work and the conversation that ensues, including a Socratic seminar approach (in which the student work is the text). Unlike many of the protocols described here, the Slice requires work from multiple students--from a whole classroom to many classrooms.

Guidelines for Facilitators

1. Be assertive about keeping time. A protocol that doesn't allow for all the components will do a disservice to the presenter, the work presented, and the participants' understanding of the process. Don't let one participant monopolize.

2. Be protective of teacher-presenters. By making their work more public, teachers are exposing themselves to kinds of critiques they may not be used to. Inappropriate comments or questions should be recast or withdrawn. Try to determine just how "tough" your presenter wants the feedback to be.

3. Be provocative of substantive discourse. Many presenters may be used to blanket praise. Without thoughtful but probing "cool" questions and comments, they won't benefit from the tuning protocol experience. Presenters often say they'd have liked more cool feedback.

Norms for Participants

1. Be respectful of teacher-presenters. By making their work more public, teachers are exposing themselves to kinds of critiques they may not be used to. Inappropriate comments or questions should be recast or withdrawn.

2. Contribute to substantive discourse. Without thoughtful but probing "cool" questions and comments, presenters won't benefit from the tuning protocol experience.

3. Be appreciative of the facilitator's role particularly in regard to following the norms and keeping time. A tuning protocol that doesn't allow for all components (presentation, feedback, response, debrief) to be enacted properly will act as disservice both to the teacher-presenters and to the participants.

The California Protocol

Many teachers in California's Coalition member schools routinely use the tuning protocol to surface issues arising from close examination of student work. However, the state's Restructuring Initiative, which funds some 150 schools, attempting whole-school reforms, has also adapted and expanded the protocol for a new purpose: to examine how such issues relate to the larger school organization and its aims, and to summarize and assess its progress. Instead of having teachers present student work, the California Protocol has a school's "analysis team" work through an important question (possibly using artifacts from their work) in the presence of a team of reflectors, as follows:

The moderator welcomes participants and reviews the purpose, roles, and guidelines for the Protocol **[5 minutes].**

Analysis

1. Analysis Team provides an introduction including an essential question that will be the focus of the analysis **[5 minutes].**

2. Reflectors ask brief questions for clarification, and the Analysis Team responds with succinct information **[5 minutes].**

3. Analysis Team gives its analysis **[25 minutes].**

4. Reflectors ask brief questions for clarification, and the Analysis Team responds with succinct clarifying information about the Analysis **[5 minutes].**

Feedback

1. Reflectors form groups of 4 to 6 to provide feedback; one member of each is chosen to chart warm, cool, and hard feedback. The Reflector Groups summarize their feedback as concise, essential questions (cool and hard feedback) and supportive statements (warm feedback). Each group posts the chart pages as they are completed so Analysis Team Members can see them **[15 minutes].**

2. The Analysis Team observes and listens in on the feedback process. They may also wish to caucus informally as the feedback emerges and discuss which points to pursue in the Reflection time to follow.

3. Each Reflector Group shares one or two supportive statements and essential questions that push further thought **[5 minutes].**

Team Reflection and Planning

The Analysis Team engages in reflection, planning, and discussion with one another (rather than in direct response to the Reflectors). Everyone else in the room observes silently as members of the Analysis Team reveal how they reflect, think, plan, and adjust.

Dialogue

The Analysis Team and the Reflectors engage in an open conversation about the school's work **[10 minutes].**

Debrief and Closure

Moderator facilitates an open discussion and debriefing of the experience of the Protocol among all participants **[10 minutes].**

The key to the success of Lesson Study is supportive and nonjudgmental reflections during the debriefing period. Moderator encourages everyone to base their comments on the data collected during the observation and avoid all other comments.

Flow of debriefing:

1. Teacher comments on the lesson.
2. Each member of the Lesson Study team comments on the lesson.
3. Open discussion:

    I wonder what would happen if…?

    What is another way of …..?

    What might explain…?

    In our planning did we consider…?

    Why did we decide to…?

4. Facilitator comments and has the last word.

Participants discuss evidence about student thinking and learning. The focus is on the team's lesson, not the teacher. Observers share evidence collected and discuss implications for future lessons.

Activity Reflection

WHAT WE DID: Looked at student work with the tuning protocol.

WHAT I LEARNED:

REFLECTION ON WHAT I LEARNED:

HOW I MIGHT USE WHAT I LEARNED:

Lesson Study Team Log

Date: _____ Time in: _____ Time Out: _____

Location of the Meeting: _____

Facilitator: _____

Recorder: _____

Contributing Members:
(please sign for attendance/credit purposes)

Lesson Topic:

_____

Key Learning(s):

Date of Next Meeting: _____

To do before next meeting:

ACTIVITY	WHO	WHEN

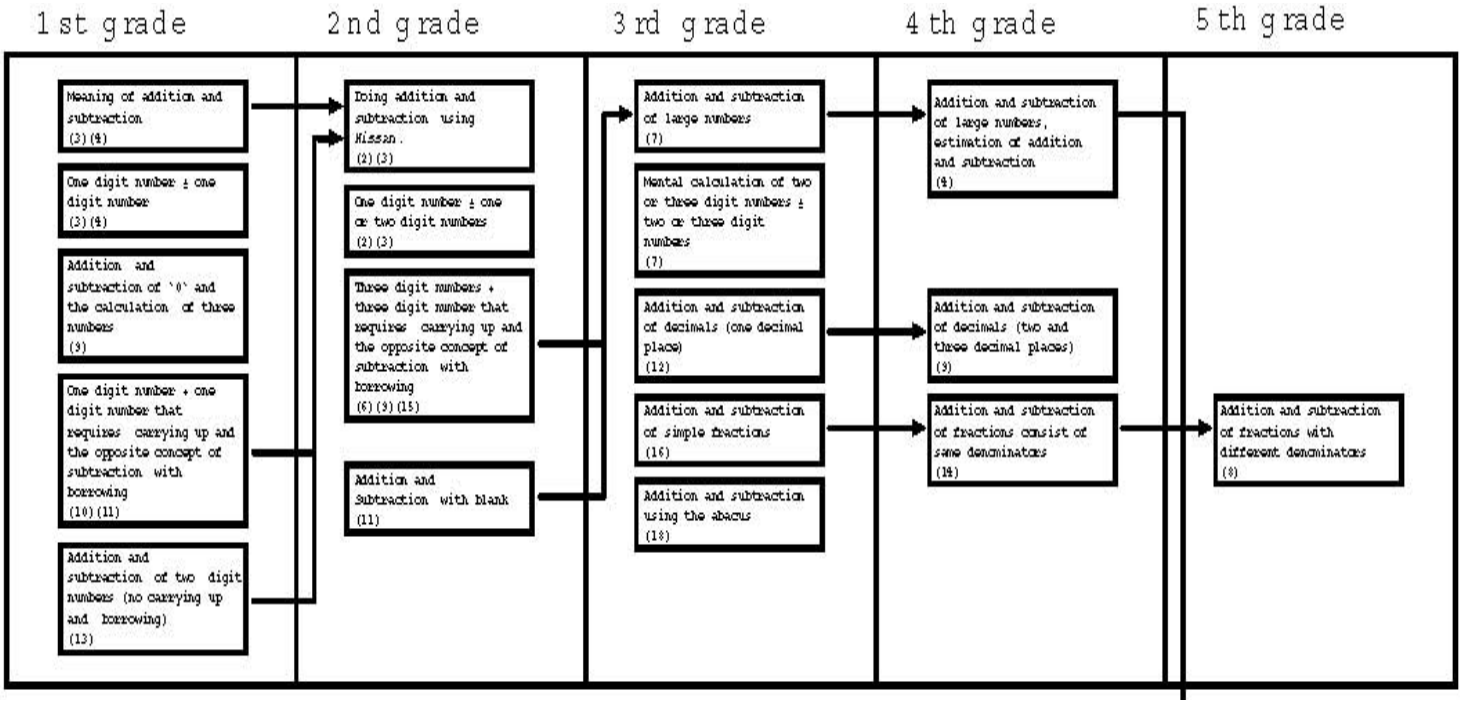
Please make a copy of this page for each team member. Turn in one copy to the principal.

Appendix F-Re-teaching and Reflecting Resource

This lesson plan format can be used for re-teaching during Phase IV.

Sample Study Lesson Plan Format

Logistical information
Date:
Grade:
Period and Location:
Instructor:



Name of the unit: (e.g., "Finding areas of geometric figures")

I. Plan the unit

A. Goal(s) of the unit: (i.e., describe/ list goals of the unit here)

B. How this unit is related to the curriculum:

C. Instructional sequence for the unit:

1. Phase I (e.g., How to find area of quadrilateral)…. 2 lessons
2. Phase II (e.g., How to find area of right triangles).. 2 lessons (this is lesson 1 of 2)
3. Phase III…… # of lessons
4. Phase IV…… # of lessons

<u>Name of the study lesson:</u> (e.g., "Finding the formula for area of a triangle")

II. Plan of the study lesson

A. Goal(s) of the study lesson: **(i.e., describe/ list the goals of the study lesson here)**

B. How this study lesson is related to the Lesson Study goal: **(i.e., a few descriptive paragraphs)**

C. Process of the study lesson:

D. Evaluation

This chart represents the bulk of the lesson plan, and often spans a number of pages. It is usually laid out in order by the parts of the lesson (e.g., introduction, presentation of problem, student work, student presentation, summary, etc.), and also includes the allocation of time for each of these parts.

Steps of the lesson: learning activities and key questions	**Student activities and expected reactions/responses**	**Teacher's response to student reactions/things to remember**	**Method(s) of evaluation**

Appendix F-Re-teaching and Reflecting Resource

This is a sample final reflection template.

Final Reflection

3-2-1 Reflection Activity: Lesson Study

What are **3** big ideas that you have taken away from this Lesson Study?

What are **2** points that you will continue to ponder?

What is **1 action** that you will take immediately?

RESOURCES

RESOURCES

Books:

Fernandez, C. & Yoshida, M. (2004). Lesson study: a Japanese approach to improving mathematics teaching and learning. Mahwah, NJ: Erlbaum.

Fullan, M. (2006). Turnaround leadership. San Francisco: Jossey-Bass.

Lewis, C. (2002). Lesson study: a handbook of teacher-led instructional change. Philadelphia: Research for Better Schools.

Stepanek, J., Appel, G., Leong, M., Mangan, M., & Mitchell, M. (2007). Leading lesson study: a practical guide for teachers. Thousand Oaks, CA: Jossey-Bass.

Stigler, J. & Hiebert, J. (1999). The teaching gap: best ideas from the world's teachers for improving education in the classroom. New York: Summit Books.

Websites:

Lesson Study: Teachers learn how to improve instruction
http://www.calread.net/documents/summit3/articles/lesson_study.pdf

Global Education Resources
http://www.globaledresources.com
Global Education Resources (GER) offers professional development and consulting in implementing Lesson Study. GER also offers an introduction to Lesson Study on CD-ROM or video.

LessonLab Inc.
http://www.lessonlab.com
James Stigler, coauthor of The Teaching Gap, is developing Web-based software that will support teacher Lesson Study groups by providing a means for creating databases; placing entire classroom lessons online; and structuring electronic communities for facilitating collaborations, sharing information, and disseminating Lesson Study results and curriculum. Stigler directed the videotape study component of the Third International Mathematics and Science Study (TIMSS).

The Lesson Research Web Site
http://www.lessonresearch.net
This site is hosted by Mills College Education Department in Oakland, California, which has a Japan-United States Elementary Education Research Project funded by the National Science Foundation (NSF). The Web site has publications on Lesson Study (including a bibliography), video clips of Lesson Study from Japanese classrooms, descriptions of Lesson Study videotapes that can be ordered, as well as news of events and funding opportunities related to Lesson Study. Links to additional resources and further professional development around the issue of Lesson Study are also available.

Lesson Study Communities Project in Secondary Mathematics
http://www2.edc.org/lessonstudy/
This Educational Development Center project supports teams of secondary mathematics teachers in the Eastern Massachusetts region in implementing Lesson Study. Along with general information about Lesson Study, this site provides tools such as sample lessons, workshop materials, and team meeting materials.

The Lesson Study Research Group at Teachers College/Columbia University in New York
http://www.tc.edu/centers/lessonstudy
This site examines how Lesson Study is practiced in Japan, the effect of American and Japanese teachers' practice of Lesson Study on teaching and learning, and the tools needed to support this activity. From the home page, Lesson Study field application sites can be accessed, allowing viewers to read about the progress of Lesson Study activities at schools around the country.

MathStar NM: Lesson Study
http://mathstar.nmsu.edu/lesson_study/index.html
This site is hosted by New Mexico State University. This professional development project for math teachers offers online Lesson Study videos, Lesson Study guidelines, and research lessons as well as links to other organizations and web sites involved in the area of Lesson Study.

Mid-Atlantic Eisenhower Consortium for Mathematics and Science Education at Research for Better Schools
http://www.rbs.org/lesson_study/index.shtml
This site provides a number of resources, including the Journey Beyond TIMSS brochure (http://www.rbs.org/lesson_study/call_to_teachers.shtml) which provides information linking TIMSS results and the importance of professional development grounded in the practice of Lesson Study. Lesson Study articles from the Currents newsletter are also available at http://www.rbs.org/currents/0502/index.shtml.

Northwest Teacher, Mathematics and Science Education Center
http://www.nwrel.org/msec/nwteacher/index.html
Northwest Teacher is a publication, of the Northwest Eisenhower Regional Consortium, about mathematics and science teaching and learning. The journal has two issues devoted to Lesson Study. The title of the Spring 2001 issue (Volume 2, Number 2) is "Lesson Study: Teachers Learning Together." The title of the Spring 2003 issue (Volume 4, Number 3) is "Lesson Study: Crafting Learning Together."

Articles:

Chokshi, S. & Fernandez, C. (2004). Challenges to importing Japanese lesson study: concerns, misconceptions, and nuances. *Phi Delta Kappan, 85*(7), 520-525.

This article explains some of the guiding principles behind Lesson Study. The authors describe the challenges U.S. practitioners may face in understanding the guiding principles behind Lesson Study, deepening and sustaining their work (focusing on purposeful learning versus incidental learning), at various stages of their Lesson Study practice (cultural and logistical roadblocks).

Fernandez, C. & Chokshi, S. (2002). A Practical Guide to Translating Lesson Study for a U.S. Setting. *Phi Delta Kappan*, *84*(2), 128-134.

The authors focus on how to establish Lesson Study in U.S. schools. They provide suggestions for setting up Lesson Study teams and facilitating their work.

Lewis, C. (1998). A lesson is like a swiftly flowing river: how research lessons improve Japanese education. *American Educator*, *22*(4), 12-17, 50-52.

This article provides an excellent introduction to the Lesson Study process. The authors describe a group of Japanese teachers as they observe and discuss a science research lesson. They also outline the impact of Lesson Study on Japanese education and the conditions that make it possible.

Lewis, C., Perry, R., & Hurd, J. (2004). A deeper look at lesson study. *Educational Leadership, 61*(5), 6-11.

This article promotes Lesson Study as a method for improving current mathematics and science instruction. Through results from a teacher-led Lesson Study initiative, the authors describe key pathways to instructional improvement as well as the importance of knowledge of subject matter and instruction. The authors conclude that Lesson Study is not just walking through a set of activities but a pathway that allows for the continual professional growth of teachers in improving their classroom instruction.

Lewis, C. & Tsuchida, I. (1997). Planned educational change in Japan: the case of elementary science instruction. *Journal of Educational Policy*, *12*(5), 313-331.

This article is one of the first descriptions of Lesson Study published in the United States. Lesson Study is identified as one of several features of the Japanese system that has contributed to profound changes in science education. The article helps place Lesson Study in a broader context of professional development in Japan.

Kit:

Teacher to Teacher: Reshaping Instruction through Lesson Study
http://www2.learningpt.org/catalog/item.asp?SessionID=811695465&productID=84
North Central Regional Educational Laboratory (NCREL) multimedia kit is designed for teacher facilitators and professional developers to support the implementation of Lesson Study. The facilitator's guide includes activities, handouts, transparencies, facilitator notes, tools, and articles. The video includes an introduction to Lesson Study and two segments highlighting schools and teachers involved in Lesson Study.