Note: This was my first solo article in a recognized professional journal. It appeared in the Journal of Adventist Education just prior to the completion of my dissertation. It has been used as required reading in both graduate and undergraduate programs at Andrews and Southern Adventist Universities.

**Bringing Powerful Teaching to the Small School**

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As a pre-service teacher I had a vision. I pictured a classroom (mine) filled with students engaged in active learning. I imagined a school (mine) filled with projects, research, manipulatives, higher-order thinking skills, cooperation, creative thinking, and intelligent use of the textbook. I imagined a teacher (me) who knew exactly how to teach each lesson. I even dreamed of a classroom (mine) where the students were so involved in learning that they asked the teacher for extra lessons. In my dreamland the students sometimes chose to work on class projects during recess.

After ten years of teaching I gave my dream a name: "instructional empowerment." Forget being a teacher who could use one method to teach all lessons. I wanted a whole toolbox of teaching strategies. I wanted "instructional power." Training in *Models of Teaching* (Joyce & Weil, with Showers, 1992) has added eight specific teaching methods to my repertoire, or toolbox. Let me share with you some glimpses of my real classroom now.

**A new Beginning**

Because I was starting a new school year in a new school with new methods, I hoped the first day of school would be memorable. I planned to teach at least one lesson with each of the eight models of teaching I knew. After worship I gave my traditional rules of the classroom presentation with one improvement. I used
cooperative-learning techniques and had students construct T-charts for each rule. The only problem I encountered was shyness. The students were too quiet during group discussion. Can you imagine that? We had to visit the T-charts after a few days of class to expand them (see Figure 1).

As a spin-off from the discussion of class rules, I launched my first complete models of teaching lesson. I presented a problem-based Synectics lesson. The problem? "What to do when students do not complete assignments?" The lesson started slowly, but by the time we reached phase four (compressed conflicts), the class was in full gear. Every hand was up, and everyone was eager to respond! The students were functioning on the upper levels of Bloom's taxonomy and enjoying it. When we reached the end of the lesson and revisited the original problem to seek solutions, the students appeared to hit a wall. An 8th-grader shared one possible solution to the problem, but the rest of the students sat with blank expressions on their faces. I shared another possible solution, but it didn't help. They were stuck. They need more practice to apply their creative thought to problem solution.

I told them we would move on to an inquiry training lesson and come back to our synectics problem later. I chose to teach a lesson that used the social-sciences inquiry approach of yes/no questioning. The discrepant event was this:

"A woman gave her husband something to eat. He died as a result of it. Many people knew about it, but she was never sent to jail. Why?"¹

All of the children appeared to enjoy this model, and within fifteen minutes they solved

¹The woman was Eve and her husband was Adam. She did not go to jail because there were none in existence.
the problem and were hooked. They begged for another one, so we did another. Was this my real classroom or the one from dreamland?

I followed inquiry training with a concept attainment lesson using the concept of "teddy bear." The data set consisted of stuffed animals that I had asked the students to bring to school. When I asked students to list attributes of the positive exemplars, the first characteristic suggested was "They are all bears." I said nothing and wrote it down. I presented more exemplars and asked students to test the list of attributes. One-by-one each attribute was eliminated until only the original attribute remained. To help clarify the nature of attributes, I presented an animal that some students identified as a bear and others identified as a kitten. We returned to the list of attributes, and I asked, "What makes a stuffed animal a bear and not something else?" Now the students had no trouble listing the specific characteristics of a "teddy bear." But when I asked students to analyze their thinking processes, we had trouble. The lesson had been so simple that no one had changed his or her thinking during the lesson.

We moved directly from this lesson into a Taba inductive thinking lesson using the stuffed animals. Students became actively engaged with the data, and quickly completed the first portion of the lesson, concept formation. During this phase of instruction, the students busily grouped and regrouped the data set and generated lists of common attributes for each group. They had little trouble with the process and maintained interest throughout the lesson.

The next models of teaching lesson took place in math class. I used a variety of stuffed animals, manipulatives, and objects to teach a second concept attainment lesson on the concept of "repeating patterns". Students in grades 1 to 4 used
manipulatives and paper to extend the lesson while students in grades 5 to 8 worked with me on symbolic (number) patterns. Each of the upper graders extended the lesson by creating his or her own pattern and completing a friend's pattern.

After lunch, I introduced the students to a cooperative simulation. We did "Lost on the Moon" from Cooperative Learning (Kagan, 1992). First, the individual members of each team ranked 15 items according to their usefulness as tools for survival on the moon. Next, the teams developed a group ranking for each item. The groups stayed on task. After scoring the papers, we compared individual scores to group scores. By looking at the higher group scores compared to the lower individual scores, the students had no trouble seeing the benefits of group interdependence. Teambuilding had begun.

For science class, I used elements of cooperative learning and Taba's inductive thinking model to help students develop an advance organizer for the field of science. Each cooperative group used the roundrobin structure to develop a list of things that scientists do or study. Then, using the data from these lists, students once again used concept formation to group similar subjects and list their common attributes. Students used these groups as the branches of our advance organizer.

In social studies, I used another cooperative structure, numbered heads, during a mnemonic lesson about the continents. After presenting the memory device and providing a two-minute practice session, I led a numbered heads review of the continents' names and locations. With a few more of these review sessions, the students had no trouble memorizing both names and locations of the continents.

A Classroom Economy
The development of our simulated economy -- *Burton Bucks, Inc.* took much of my time during the first four weeks of school. We used the roundtable cooperative structure to develop a list of classroom jobs. Next the students applied for positions. Each student listed three jobs on a sheet of paper and stated why they were qualified for the job. After students began "working", they were eager for payday, which occurs every two weeks.

Every four weeks students must pay such bills as tithe, rent, utilities, and taxes. Every third week students receive "real life" cards that consist of favorable and unfavorable circumstances that adults face from time to time, including making car repairs, paying speeding tickets, and receiving birthday presents. Every four to six weeks we hold a town hall meeting to discuss any needed changes or improvements for our town. So far we have needed only one session of the Burtonopolis City Court. We operate our own police force and classroom mall. In the mall, the students and I operate a variety of stores. The mall is open one day every two weeks, in addition, one student operates a classroom bank.

Because we were getting ready to plant a garden on the school grounds, we started the second semester of science and social studies with another cooperative simulation, The Game of Farming. Students formed "farm families" and ran a 40-acre family farm in the Ohio of the 1880s. The only complaints I heard were when we finished. *No one* wanted to stop after only "three years" of farming.

**MOT Meets Thematic Instruction**

Perhaps the educational highlight of the fall semester was the thematic unit that my students completed on the Middle Ages. When I announced that we would be
studying the Middle Ages for the next month I heard a chorus of moans. "I hate the Middle Ages," groaned one child. I ignored the complaints and began the unit with a cooperative lesson using the question matrix (Weiderhold, 1993), to encourage student thinking and questioning at all levels of Bloom's taxonomy. I had the students construct "truly" questions, questions about the Middle Ages for which they truly did not know the answer. I used these questions to guide individual and group inquiry. When the time came to end this introduction to the Middle Ages, I heard complaining again, but this time the students were complaining about the end of the question matrix activity. "May we do this again?" one student asked. "This is fun!"

I used Cathedral, a book showing the construction of a medieval cathedral, as the read-aloud beginning for the unit. Building off Cathedral, I launched into concept-attainment lessons on polygons and symmetry, and taught Taba inductive lessons with types of angles and quadrilaterals. To extend these lessons, students constructed mosaics by using geometric shapes cut from construction paper. After completing the mosaics, each group of students designed and constructed a medieval banner. Next the students designed and made "stained-glass" windows from tissue paper and crayon shavings.

We finished our unit with the construction of a one-tenth-scale cardboard castle. In addition to the walls, towers, and portcullis, the students constructed a great hall and a chapel. The students installed their "stained-glass" windows in the chapel, then fitted the chapel with an internal light. The results were stunning.

After we completed the castle, we invited parents and church members to an open house. Student work covered the walls and the tables all around the castle.
When 30 people had arrived, I began a simulation called Medieval M & M's™. Roles were assigned to children and adults by random selection. The youngest of my students was crowned Queen Erin. She was served by a court of two nobles and three vassals. The rest of us became serfs. Children and adults gained insight into the social and economic structure of the Medieval era and with the exception of Queen Erin and her court, I think most of us were glad to be living in the 20th century.

My pursuit for powerful teaching is far from over. I am still working to master my new-found teaching strategies. I am still searching for more "tools" to add to my teaching toolbox. And I am still struggling against the enormous time and curriculum demands of a one-teacher school. But the taste of success is sweet and I have no intention of abandoning the quest.
Suggestions for Implementing MOT in a One-teacher School

Start small. Don't plan on implementing MOT in all subjects at the beginning. Start with the one or two subjects with which you are most comfortable and grow from there.

Make time. Start lesson development during the summer. Do not expect to have time during the school year to develop all the lessons that you will need. Depending on your teaching load, you may be able to develop only one lesson per week.

Develop a lesson library. Begin developing lessons during your initial training in MOT. During the summer and as you have time during the school year, continue to add to your collection of lessons. Work cooperatively with other teachers to share lessons. Send your lessons to CIRCLE.* [Is circle operating? If it is include a footnote]

Use your curriculum guide. Don't waste time trying to dream up lesson ideas. You will find a wealth of ideas in your curriculum guides.

Use your textbooks and workbooks. With minor adaptations, some portions of textbooks, workbooks, and related materials often can be developed into MOT lessons. The new Seventh-day Adventist science textbooks contain many demonstrations and teaching suggestions that are easily changed into inquiry or inductive lessons.

Combine and Conquer. Group students across grade levels for as many lessons as possible. While this is very easy to do with Bible, science, and social studies, it is also possible to combine grade levels in other subject areas as well. For example, I combine students in the first four grades to teach concept attainment
lessons on "greater than" and "less than" in early September.

**Use and Reuse.** Keep all the lessons you make. The lesson you use for 7th- and 8th-grade math in September can be used for 3rd- through 6th-grade math later in the year.
Glossary

**Concept attainment** is a strategy that teaches conceptual thinking by presenting positive exemplars (examples) and negative exemplars. The students construct a list of characteristics and a definition for a specific concept.

**Inquiry Training** develops cause-effect reasoning in students. The lesson begins with a discrepant event, a puzzling situation that "pulls" students into the lesson. Students then verify and experiment with data. This is sometimes done through yes/no questioning. After adequate information has been acquired and confirmed, the students formulate an explanation for the discrepant event.

**Mnemonic lessons** present material to be memorized using research-based techniques to enhance retention rather than rote.

**MOT** is an abbreviation for Models of Teaching.

**Numbered Heads** is a cooperative technique to insure individual mastery of objectives. Students in each group are numbered and groups review material to insure mastery by each group member. The teacher then randomly selects a number and each team member with that number must answer the question.

**Question matrix** was developed by Charles Weiderhold. It consists of six question words and six verbs which can be combined in any of 36 combinations.

**Roundtable** is a cooperative learning structure used to record individual responses within a group. A piece of paper is passed around the group and each member writes a response to the teacher's question. Roundrobin is a similar technique where responses are given orally.

**Synectics** is a model of teaching that emphasizes creative problem solving. The six phases of a synectics lesson are (1) description of the problem, (2) direct analogy, (3) personal analogy, (4) compressed conflict (oxymorons), (5) direct analogy, and (6) reexamination of the problem.

**Taba Inductive Thinking** is a teaching approach consisting of three separate strategies, concept formation, interpretation of data, and application of principles. In concept formation, students separate specific data (in this article, stuffed animals) into discrete categories, list the characteristics of each category, and make a name for each grouping.

**T-chart** is a cooperative learning technique used to operationalize social skills and abstract concepts. (See Figure 1)

**Thematic units** organize tasks from all curriculum areas around a common theme,
such as the Middle Ages.
