

Techniques for Active Learning

This packet focuses on techniques which teachers can easily implement to increase time on task for all learners. The techniques require few materials and little extra planning, but they make a huge impact on the amount of time students are engaged in learning. The techniques not only increase achievement but also assist students in building relationships.

Techniques are presented in the following categories:

- Motivation and Focus Activities
- Techniques Used During Instruction
- Cooperative Group Work
- Evaluation

Motivation and Focus Activities

- **Anticipation Guide** (Friend & Bursuck, 1999)

These guides are easy to prepare and capture students' attention.

1. Prepare a series of up to five true/false or agree/disagree questions on the lesson topic. Post the list on the chalkboard or overhead. Sample true/false questions are: Is red an adjective? Will the wolf get a pig dinner? Are there rigid walls in animal cells? Did the Emancipation Proclamation free the slaves? Sample agree/disagree questions are: Long division is easy. The most difficult part of experimental design is the dependent variable. The decimal point in the answer for a division problem is placed directly above where it is in the problem. The theme of Charlotte's Web is that pigs are better than spiders.
2. At the start of class, after the class has had time to consider the questions, ask the students to answer the questions using a signal (thumbs up/down, arms raised all the way or half way, fist or fingers on hands, etc.).
3. Reasons for choices may be shared before or after the lesson.

- **Knowledge Rating Scale**

A Knowledge Rating Scale helps teachers quickly assess students' prior knowledge.

1. Prepare a list of topics for the lesson or next unit and write them on the chalkboard, white board, overhead, or chart. For example: How familiar are you with: Active Learning Strategies? Numbered Heads? Whip Around/Pass? A Cry for Help? and One-sentence Summary?
2. Learners indicate their knowledge regarding each topic on a scale of 1 to 5 with 1 being "Never heard of it" to 5 being "I know this stuff cold."

- **Immediate Work Assignment** (Harmin, 1994)

Students begin an assignment or task within their capability as soon as they enter class, and do not wait for the teacher to explain it. The idea is to engage students immediately so they waste no time and lose no energy waiting for activities to get underway. These activities provide valuable student practice and allow the teacher to take attendance, consult with individual students, catch up with a student who has been absent, or prepare lesson materials.

Typical assignments, or "sponges" as they are sometimes called, for the beginning of class include: writing in journals, working on problems written on the chalkboard or overhead, sitting

in pairs and checking each other's homework (perhaps with the aid of an answer key), and starting work on individual tasks, worksheets, or learning center activities.

Techniques Used During Instruction

- **Whip Around/Pass Option**

The purpose of this technique is to increase the number of opportunities to respond, the number of students who speak up, and to give students practice in responsible self-management. The technique can be used with all or part of a class.

1. Ask each student in turn to speak, read, or share an answer.
2. Allow students who are not ready or who are unsure of an answer to say, "I pass".

- **Question; All Write**

1. Pose a question to the class that will make students think and have them write a response.
2. When three or four students have finished writing, announce, "Just finish the thought you are now writing." Do not wait until most students finish. Keep up the pace.
3. Follow with the Whip Around/Pass, Pair/Share, Square/Share, and/or Group Share technique described in the section on cooperative group work.

- **Everybody Show**

This technique is used for a quick comprehension check of factual information or opinions. Teachers can easily tell which students need more instruction.

1. Ask questions that can be answered with yes or no, or a first, second, third response. This technique requires yes/no cards, 1,2,3 cards, and/or Agree/Disagree Cards. A "thumbs up, thumbs down" signal or a showing of fingers can be substituted for the cards. Students answer together when given the "everybody show" signal.
2. For more detailed, higher order thinking questions, the teacher provides dry erase boards, space at the chalkboard, or flashcards. Students may work individually or in dyads. Ask a question, allow wait time, and then give the respond signal. The students answer by writing on their dry erase boards, chalkboard, or choosing the correct flashcard showing the answer only after they are told "Everybody show."

- **Voting Techniques (Harmin, 1994)**

Teachers sample student thinking without slowing the pace of the class with these techniques.

1. Phrase questions to elicit non-verbal or voting answers rather than individual verbal answers. Ask questions like, "How many have questions they would still like to clear up?" rather than "Does anyone have any questions?" Ask, "How many are ready to move on?" instead of "Are we ready to move on?" Ask, "How many agree with Bill? How many disagree?" rather than "Do you agree with Bill?"
2. A more complex nonverbal response would be, "If you agree, raise your hand all the way. If you partially agree, raise it halfway. If you disagree, point thumbs down."
3. To test students' readiness to respond, ask students to "Hold up one finger if you have an idea but do not want me to call on you. Hold up two fingers if you are willing to respond aloud but are really not all that sure. Hold up three fingers if you are fairly sure and are willing to respond. Otherwise hold up a fist, so I'll know how many have no idea. I'll call on only those holding up two or three fingers."

- **I Have... , Who Has?** (Adapted from Parrot, 2000)
 1. Prepare vocabulary words, math facts, or fact questions and corresponding answers, equal in number to the number of students.
 2. Give each student one question card and a different answer card. The first student says, “Who has (and reads the question)?” For example, “Who has a railroad that would stretch across a continent?”
 3. The student who has the corresponding answer goes next and says, “I have (answer). Who has (question)?” To continue the example, “I have transcontinental railroad. Who has an unfair dislike or hatred of a group because of their race or religion?”
 4. Play continues in this manner. Teachers try to get all the way around the room or keep going in smaller circles!

- **Speak-Write** (Harmin, 1994)

This technique increases student learning during lecture formats by providing structured time for teacher talk and student reflection.

 1. Tell the students that there will be breaks during the lecture for students to write one of four options: a summary, questions, reactions, or another response. This pause allows students to construct personal meaning. The students are not to write during the teacher-talk.
 2. Pause for student reflection at appropriate content breaks after three to four minutes of lecture.
 3. Students can share their reflections through sharing pairs and then a whole class discussion. Lectures may be augmented with visuals such as overheads, chalkboard notes, handouts, outlines, etc. However, the additional visual support does not lengthen the time for lecture chunks.

- **Choral Work**

This technique is helpful to students who learn by repeating information rhythmically and aloud. Use this technique for 4 - 6 minutes with the whole class.

 1. Make large cards containing facts, chemical symbols, spelling words, phrases--any material to be memorized and internalized.
 2. Teach students to feel the rhythm of words and syllables and chant in rhythm.
 3. Show cards, one at a time.
 4. Lead students in chanting each card in rhythm.
 5. Use a phrase like, "A little more power please!" to increase participation.

- **Pinwheel** (Adapted from Parrot, 2000)

This activity can be used with the whole class. Students work in groups of six, eight, or 10.

 1. Divide the class into groups. Each group forms an outer and an inner circle, half facing in, the others out. Each of the inside students is given vocabulary words and their definitions or a list of questions and answers. They quiz their outside partner as directed by the teacher (give the word, expect the definition, or ask the question). Students may offer assistance as needed.
 2. After each dyad has completed its assigned words or questions, the outside students are cued by the teacher to “pinwheel” or move one position to the right. Now, each student has a new partner and the outside students have new vocabulary words or questions to review. This process continues until each outside student has worked with each inside student.
 3. Call “inside out and outside in.” Students switch roles and the process is repeated.

Cooperative Group Work

- **Paired Reading** (Harmin, 1994)

1. Introduce the vocabulary and key ideas for the reading selection (fiction or nonfiction).
2. Provide directions for what to do upon completion of the reading. Directions may include:
 - Talk over the reading and see what you think about it.
 - Answer comprehension questions on the reading.
 - Write some outcome sentences based on the reading in your journal.
 - Talk about some things you liked or found interesting.
 - Begin the next reading or shift to some of your individual work when finished.
3. Students are paired (mixed-ability) and seated side-by-side. Minimal directions are given to allow for maximum self-direction. The pairs are encouraged to assist each other when unknown words arise and to read for the amount of time that is comfortable for each, not necessarily the same amount.

- **Think, Pair, Share and Variations**

Students are asked to think about and share answers to teacher-posed questions.

1. Students reflect individually on the material presented to this point in the lesson. Sometimes the additional direction to write a response is given.
2. Students pair up with a partner seated nearby or designated by the teacher. Pairs share and compare their answers.
3. The step of “Square” can be added to allow two sets of pairs (or four students) to share answers. This is advisable when there is more than one correct response or way to arrive at an answer.
4. If students are already in cooperative groups of 4, the teacher stipulates the pairing partners. For instance, the directions might be “What are the three most important items the early settlers needed? Pair up 1 with 4, 2 with 3 for sharing.”

- **Jigsaw or Task Group, Share Group** (Johnson & Johnson, 1994)

1. Divide the class into three groups and provide three reading materials (this could be three chapter sections or three different sources on the same topic) to each group. Students are paired to read the assigned materials, poor readers strategically placed with able readers. Allow a specific amount of time for this reading to take place (about 2 – 4 minutes).
2. After the allotted time, all students who read the same section come together to discuss the information. Within a specified amount of time (about 5 – 7 minutes), they summarize what was read, clarify words and concepts that were not understood, and ask questions of each other about the content. The students need to know this information so well that they can teach it to others, because that is the next step. Before dismissing these groups, have all three groups count off: 1 – 2 – 3. Regroup the class into 1’s, 2’s, and 3’s.
3. Now each group contains students who have read the first, second, and third parts of the material. The students who read the first section share information they learned with the rest of the group. All of the 1’s should have a chance to give input. Students may ask

questions to clarify information presented. Then, the 2's explain the second part and the 3's share the third. Subdividing the group works well at this step. Groups of six – two 1's, two 2's, and two 3's – are ideal. Allow about 7 – 10 minutes for the students to teach each other the information.

- **Class Wide Peer Tutoring** (Adapted from Greenwood & Delquadri, 1995)

This technique replaces independent seatwork. It is recommended for use in high schools for approximately 30 minutes 2-3 times per week and, in elementary schools, for 15 minutes 3-4 times per week.

1. Introduce the new material to be learned.
2. Explain classwide peer tutoring and divide the class into two "balanced" teams. Tutoring pairs are assigned within each team.
3. Prepare flashcards with questions, vocabulary terms, or problems on one side with the answers, definitions, or examples on the other side to use for practice. Instead of flashcards the students could use class notes taken in two-column form, with words on the left side and definitions on the right side of the page. Or, prepare a study guide with a series of questions in the first section followed by the answers in the second section.
4. Students take turns being the tutor and tutee during tutoring time; the teacher supervises the interactions, making note of difficult vocabulary, concepts, etc.
5. Tutees earn points by giving correct answers to tutor questions and by correcting their errors when they make mistakes (but receive fewer points than if they had answered correctly the first time.) The teacher may award bonus points for on-task tutoring and responding behavior.
6. Points earned during tutoring sessions are factored into student grades in various ways (quiz grade, classwork grade, etc.).
7. Team scores are posted for recognition and motivation.

- **Peer Tutoring** (Walther-Thomas et.al., 2000)

Peer tutoring is a structured and ongoing technique for practice. Tutoring is arranged across age, ethnic, economic, language, achievement, and ethnic groups. Students need the opportunity to be both tutor and tutee. Peer tutoring affords many of the same benefits of one-to-one instruction in both academic and social skills.

1. Prepare tutors for their roles. Teach tutors to:
 - give clear directions
 - give feedback to tutees for both correct and incorrect answers
 - provide the right amount of assistance
 - manage materials
 - record progress.
2. Schedule tutoring sessions regularly, daily or often during the week, for a specified amount of time.
3. Specify the content to be taught, conditions for mastery, and rewards.
4. Rotate tutors.
5. Provide feedback to tutors regularly regarding how well the sessions are going.

Evaluation

- **Outcome Sentences** (Harmin, 1994)

1. Students write sentences after reflecting on a lesson or experience, prompted by phrases like:
 - I learned . . .
 - I'm beginning to wonder . . .
 - I was surprised . . .
2. These phrases can be displayed on a chart. The teacher says, "Please reflect on the discussion and see if you can find some learnings for yourself from it." After the students have written their thoughts, the teacher asks if anyone is willing to read one of their outcome sentences. Another way to share thoughts is to use the whip-around/pass technique or have students share in pairs.

- **One-Sentence Summary** (Korinek & deFur, 1999)

Use this technique at the close of the lesson.

1. Ask students to write a one-sentence response to one of the following sentence starters.
 - The most important (or helpful) thing I learned was . . .
 - After today's class I would conclude . . .
 - A question about today's material that might be on a test is . . .
 - I still have a question about . . .
 - A word, image, or phrase that captures today's lesson is . . .
 - I never knew . . .
 - The muddiest part of the lesson was . . .
2. Responses can be written in learning logs or on scrap paper, with or without the student's name, and submitted.

- **What? So what? Now what?** (Ellis, 1999)

Use these questions at the end of class.

1. Students are asked to answer these three questions individually.
 - What? (What was the most important thing you learned?)
 - So what? (Why did you select that item?)
 - Now what? (What will you do with what you learned?)
2. The answers can be written and shared orally with a partner and/or with the entire class.

References

- Ellis, E. S. (November, 1999). *Watering up the curriculum for students with learning disabilities*. Presentation at the 10th Resource/Collaborative Teaching Symposium, Williamsburg, VA.
- Friend, M., & Bursuck, W., (1999) *Including students with special needs: A practical guide for classroom teachers*, Second Edition. Boston: Allyn and Bacon.
- Greenwood, C. R., & Delquadri, J. (1995). Classwide peer tutoring and the prevention of school failure. *Preventing School Failure*, 39 (4), 21-25.
- Harmin, M. (1994). *Inspiring active learning: A handbook for teachers*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Johnson, D., Johnson, R., & Holubec, E., (1994). *Cooperative learning in the classroom*. Alexandria, VA: Association for Supervision and Curriculum Development.
- Korinek, L. & deFur, S. (January, 1999). *Group learning strategies to enhance memory and recall*. Presentation at the workshop, Teaching and Assessing the Virginia Standards of Learning, Chesapeake, Virginia.
- Parrot, P. (January, 2000). *Reading comprehension*. Strategic SOLutions Part I: Ensuring the success of all students with Virginia's SOL. Presentation at the T/TAC W&M workshop, Chesapeake, Virginia.
- Walther-Thomas, C., Korinek, L., McLaughlin, V., & Williams, B. (2000). *Collaboration for inclusive education: Developing successful programs*. Boston: Allyn and Bacon.

Additional Resources

The following resources are available for loan through the T/TAC W&M library. Call 1-800-323-4489 and select the library option to request a material. Visit our website at <http://education.wm.edu/centers/ttac/index.php> for a complete listing of all our materials. Select the Library link off the home page and then select Teaching Techniques.

- *The Differentiated Classroom: Responding to the Needs of all Learners*, C. A. Tomlinson (TT71)
- *Reaching the Hard to Teach* (book and video), J. Wood (TT10)
- *Strategies and Tactics for Effective Instruction*, B. Algozzine, J. Ysseldyke, & J. Elliott (TT41)
- *Strategies to Inspire Active Learning: Complete Handbook*, M. Harmin (TT73)

This *Considerations Packet* was prepared by Carolyn Ito, June 2000.