Grouping:
Think-Pair-Share
Jigsaw

Procedural Knowledge Level
Grouping, or cooperative learning, refers to students working together to accomplish a common goal or purpose. Though grouping may take many forms, effective use of the strategy occurs when positive structures are in place to support that process.
Think-Pair-Share

Mission
To incorporate think-pair-share into lesson plans to positively impact student engagement and achievement.

First Impressions

- How and when can think-pair-share be utilized most effectively in a lesson?
- How do teachers form groups for think-pair-share?
- How can think-pair-share be adapted to include diverse learners?
Objectives:

Students will be able to...

1. Describe how to implement think-pair-share in a classroom.

2. Determine when to implement think-pair-share in a lesson to maximize instructional time.

3. Discuss different ways to form groups for think-pair-share.

4. Explain how to adapt think-pair-share to include diverse learners of all ages.

Section 1

Exploration

Think-pair-share is a cooperative learning strategy that provides independent ‘think time’ as well as a chance to share insights about a lesson topic or concept with a peer. It can be used to prompt students to correct or refine their ideas as they are exposed to others’ thoughts. You can also use think-pair-share to check for understanding of material, to discuss directions, or to break up a long presentation.
Section 2
What's This?

It begins with the teacher posing a question or problem that typically requires some abstract thought. Students are then given time to think independently about their own response, time to discuss their response with a peer, and finally time to share their responses with the whole class.
Take a Look

How do you implement the strategy?

**Step 1:** Pose a discussion question, challenge, or problem.

**Step 2:** Instruct students to think individually from 10 seconds to 5 minutes:
- What information is needed to solve the problem?
- What do I already know?
- What strategies and tools can I use?
- What are some questions for my partner?

**Step 3:** Pair students, providing 2-3 minutes for pairs to discuss ideas.

**Step 4:** Provide each pair with 3-4 minutes to share their ideas with the larger group.

How do you use think-pair-share effectively?

**Experiment.** The think-pair-share strategy can be successfully implemented in different places throughout the lesson. Prior to a lesson, it can be particularly effective in activating background knowledge and in informally assessing student knowledge of a topic.

During a lesson, it can be used in guided practice to reinforce or practice a skill or concept just taught.

At the closure of a lesson, think-pair-share can be used to informally share what was learned.

**Differentiate.** The think-pair-share grouping strategy can be differentiated to meet the needs of diverse classroom populations.

- Have students write down or draw ideas before sharing them.
- Pair students who are English Language Learners with students who can help translate difficult language.
- Use communication boards with students who are nonverbal.
- Discreetly modify the level of a question or task with pairs as needed to increase or decrease difficulty.

Consider different grouping strategies to meet the needs of your students. Groups can be assigned by teacher or student selection or randomly through means such as clock buddies or counting off by number.
**Monitor.** Walk around the room to make sure students are on task and to determine if they need clarification or have questions. Make sure both team members are doing the work.

*Why does it work?*

Using the think-pair-share strategy...

- helps students connect new information being studied to their own background knowledge to make sense of what is being learned.

- provides students with time to mull over a concept.

- activates the social side of learning.

- gives teachers and learners a way to chunk, comprehend, and review information presented before moving forward.

- takes the pressure off students who are not comfortable discussing information in a large group or who fear being put on the spot.

**Hot Links**

[Reading Quest](#) Offers a brief description of how the strategy works, ways to group, and why it's important.

[Instructional Strategies Online](#) Tips on ways to construct and manage groups, adaptation ideas, and evaluation/assessment considerations. Helpful resources included.

[Think-Pair-Share Math Applications (Grades 7-12)](#) Sample math starters and examples for individual thinking.

[Think-Pair-Share](#) Video with animated graphic representation.
Read Lesson 2 of the ELEM Social Studies Unit on **Forming the NC Constitution**. Specifically focus on the *Think-Pair-Share*, which begins in the Teacher Input section.

- Describe how the Think-Pair-Share is used in the lesson.

- Why did the teacher use the strategy multiple times during the Teacher Input?

- How did the teacher differentiate the Think-Pair-Share?

- Do you think this was an effective use of the strategy? Why or why not?
Think-Pair-Share...

- can be used throughout the lesson.
- provides a chance to connect new information.
- uses social learning techniques.
- helps students “chunk” information.
Section 4
Resources


First Impressions

- How and when can jigsaw grouping be utilized most effectively in a lesson?
- How do teachers form groups using the jigsaw method?
- How can grouping strategies be adapted to include diverse learners?
Section 1
Exploration

The jigsaw learning technique, developed by Elliott Aronson and his students in the 1970s, is an evidence-based cooperative learning/grouping strategy. It can be used to promote academic achievement, encourage inquiry-based learning, and improve student motivation across all content areas.
The jigsaw strategy breaks information down into specific sections and allows students to become content experts within their section. Each student’s content knowledge becomes a necessary piece for creating understanding among their group. Just like pieces in a jigsaw puzzle, the students work together to create a complete picture. This ensures that all members’ contributions are necessary and valued.
**Take a Look**

*How do you implement the jigsaw strategy?*

**Step 1:** Divide students into 4-6 person home groups. These groups should be heterogeneous (diverse in terms of gender, ethnicity, race, and ability).

**Step 2:** Assign one student from each group as the leader.

**Step 3:** Divide the day’s lesson into 4-6 segments, matching segments to the number of home groups. For example, if students are learning about giraffes, you might divide the segments based on the giraffe’s appearance, where it lives, what it eats, and its offspring.

**Step 4:** Assign each student to learn one segment.

**Step 5:** Give students time to carefully read over their segment and become comfortable with the information.

**Step 6:** Form mixed, or expert, groups by having students from each home group join other students assigned to the same segment. Give these mixed groups time to discuss their segments and rehearse the presentations they will make to their home groups.

**Step 7:** Ask students to return to their home groups where they will present what they have learned to the group. Encourage others in the group to ask questions.

**Step 8:** Monitor the groups. If any group is having trouble, implement an appropriate intervention.

**Step 9:** At the end of the session, give a quiz on the material so that students realize they are being held accountable.
How do you use jigsaw grouping effectively?

Create diverse groups. When you configure your groups, think about pairing students of various backgrounds and ability levels. This provides students with an opportunity to mentor and to aid one another.

Provide clear, concise directions and establish predictable procedures. Give one direction at a time and have the directions posted for reference as needed.

Manage time wisely. Use a timer when transitioning between group processes to keep the process moving along.

Monitor your ‘expert’ groups carefully. Monitoring will ensure that every member has an accurate report to present. Walk around the room to make sure students are on task and to see if they need prompts or have questions.

Be flexible about the modality of the presentation.

Differentiate. Vary the levels of instruction within your expert groups as needed. Some students may need more of a challenge and others may need other adaptations to be successful.

Provide extra incentives. Consider having some type of small group award so group members are motivated to do a good job.

Delegate. Assign a discussion leader in each group. Make it that student’s job to ensure everyone participates fairly.

Why does it work?

Using jigsaw grouping...

- ensures that each student becomes a critical part of the whole and each contribution is valued.
- allows all students to become experts in content learning and to experience personally the teaching process.
- works to individual students’ areas of strength.
- gives opportunities for adaptation and differentiation.
- helps develop students’ communication and collaboration skills.
- encourages academic gains in low, average, and high achievers.
Hot Links

Social Studies Lesson Plan Using Jigsaw:

The New Deal

Math Lesson Plans Using Jigsaw:

Special Segments in Triangles

Geometric Transformations

Worksheets to Use in Jigsaw Lesson to Teach Transformations
As you watch the video clips provided, see if you can identify the steps in the jigsaw process as well as how the teacher empowers the students to become teachers and assessors. When you are finished, answer these reflective questions.

How does the teacher form, manage, and challenge the cooperative groups?

Why did the teacher want the students to teach and assess their peers?

What were some of the students’ ideas?

How could you modify the activity for your own practice?

Video Clips:

- Using Jigsaw to Teach Compound Inequalities
- Using Jigsaw as a Strategy for Understanding Texts
- Using Jigsaw to Teach Geography
Review

Jigsaw...

- allows students to become content experts.
- develops communication skills.
- utilizes social learning techniques.
- promotes inquiry based learning.

Question 1 of 3
What is one reason the Jigsaw strategy works?

A. Students have think time.
B. Students work with their friends.
C. Students become experts in content learning and personally experience the teaching process.
D. Students learn the wrong information.
**Unique to Think-Pair-Share**
- Preparation can be minimal
- Few steps in process
- Wait time is purposely provided
- Individual peer work
- Typically takes 5-12 minutes
- Theorist: Fred Lymon, 1981

**Common to Both**
- Increases engagement
- Increases achievement
- Fosters cooperation
- Can boost self-esteem and school attitude
- Fosters acceptance of students with diverse needs
- Holds all students accountable

**Unique to Jigsaw**
- Pre-planning is required
- Each student is an expert
- Process has ten steps
- Small group work
- Typically requires an hour - a significant portion of a lesson
- Theorist: Aronson, 1979


Instructional Strategies

Subject Specific

Career & Technical Education
Meeting the needs of all students can be challenging in America’s uniquely diverse classrooms. In addition to ability variances, differences in ethnicity, gender, age and race can create tension and sometimes conflict. Grouping refers to having students work together to achieve a common goal. There are several types of grouping strategies including ability grouping, mixed ability grouping, random grouping and student selected grouping (Farley, 2013). This chapter will provide an overview of grouping.
strategies. The tables below demonstrate the significance of using grouping which involves grouping and regrouping students in a variety of ways throughout an entire unit or lesson (Valentino, 2000) and situations where grouping strategies might be incorporated.

<table>
<thead>
<tr>
<th>TEACHER LED - GROUPS</th>
<th>STRATEGY</th>
<th>SCENARIO</th>
</tr>
</thead>
<tbody>
<tr>
<td>Whole Class/Small Groups</td>
<td>Skill-based Grouping</td>
<td>In a computer engineering class where you deliberately group students together to maximize teamwork skills and content knowledge.</td>
</tr>
<tr>
<td>Individual</td>
<td>Learning Style Grouping</td>
<td>In a marketing class, connect visual learners with auditory learners to create an interactive project.</td>
</tr>
<tr>
<td>STUDENT LED - GROUPS</td>
<td>Ability Grouping</td>
<td>For a literacy activity, pair strong readers with reluctant readers and encourage co-reading and discussion.</td>
</tr>
<tr>
<td>Collaborative:</td>
<td>Random Grouping</td>
<td>For a literacy activity, pair strong readers with reluctant readers and encourage co-reading and discussion.</td>
</tr>
<tr>
<td>Circle Sharing</td>
<td></td>
<td></td>
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<tr>
<td>Four Corners</td>
<td></td>
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</tr>
<tr>
<td>Performance Based:</td>
<td>Student Selected Grouping</td>
<td>Have a list of topics based on the topic or content at hand. Students pick a topic that most interests them and they work cooperatively with the other students who also chose the same topic to create a final product.</td>
</tr>
<tr>
<td>Group Study</td>
<td></td>
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<tr>
<td>Interview for Options</td>
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<tr>
<td>Pairs:</td>
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<tr>
<td>Partner Turns</td>
<td></td>
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<tr>
<td>Think, Pair, Share</td>
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</tbody>
</table>
Using Browzine or ECU OneSearch please find and read an article dealing with one of the following topics:

- Grouping
- Flexible Grouping
- Cooperative Learning

Reading this article will prepare you for viewing the instructional strategy that deals with grouping.
CTE Applications

Now that you have completed the exploration portion of the module we will examine how grouping might look in CTE. The CTE Applications section will provide the context for the lesson, lesson agenda, the individual video segments you will watch, the expanded lesson plan, and a student work sample. Following the CTE Applications section, you will be required to complete reflection activities.

Context for Learning

Teacher: Mr. Kurt Garner

Course: Microsoft IT Academy – Excel and Access (Honors)

This class is an honors level course. Students typically have completed Microsoft IT academy Word and PowerPoint before this class but it is not necessary.

Modifications: This class has no students with special needs.
D H Conley High School Information

School location:
2006 WORTHINGTON RD
GREENVILLE, NC 27858
(252) 756-3440

School district:
PITT COUNTY SCHOOLS

This high school has a total enrollment of 1413 students with approximately 84 full-time teachers. It has a student to teacher ratio of about 17 students per teacher. The average student-teacher ratio for Pitt County is 15 to 1.

Enrollment by Grade Level

- 9th Grade Students: 448
- 10th Grade Students: 361
- 11th Grade Students: 328
- 12th Grade Students: 276

Total students: 1,413
Total Full-time teachers: 83.9
Student / Teacher Ratio: 17:1

Students eligible for free lunch: 317 (22%)
Students eligible for reduced lunch: 48 (3%)

Demographics

- White 65%
- Black 27%
- Hispanic 7%
- Asian 1%
- Other 0%
A lesson agenda is a brief synopsis of a lesson plan that may be submitted to administration.

<table>
<thead>
<tr>
<th>DATE: 03/04</th>
<th>MSITA ACCESS</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Objectives</strong></td>
<td>2.00 Understand basic database software skills using Microsoft Access.</td>
</tr>
<tr>
<td><strong>Materials</strong></td>
<td>Microsoft Access, MSITA resources from Moodle</td>
</tr>
<tr>
<td><strong>Activities/Agenda</strong></td>
<td>Students will complete a project in pairs by each completing part of the assignment. Once students complete their part of the assignment they will come together to import their tables into the same database utilizing relationships.</td>
</tr>
<tr>
<td><strong>Evaluation</strong></td>
<td>Completion of assignment</td>
</tr>
</tbody>
</table>
Video Segment One

As you prepare to watch video segment one on grouping think about how the teacher is providing instruction and direction for students to set the stage for the lesson.

Think about how the teacher prepares the lesson taking into account student’s prior academic learning and personal/cultural/community background to support learning.

Why do you think the teacher plans to use grouping as an instructional strategy for the lesson?

Now watch the video.
Video Segment Two

After viewing the first video, if you are unsure of the grouping strategy please click on the link.

Prior to watching the second video segment on grouping please think about what your response would be to the following questions.

• What do you think will happen in the second video segment based on the instruction provided within the first video segment?

• Do you think instruction will be teacher centered or student centered?

• Do you think students will be engaged with the lesson?

Now watch the second video.
This is an example of an expanded lesson plan that accompanies the video that you just reviewed. Teacher candidates at ECU are expected to create a similarly constructed expanded lesson plan for the edTPA.

Lesson By: Kurt Garner

Lesson based on the research: Revised Bloom’s Taxonomy present in A Taxonomy for Learning, Teaching and Assessing; A Revision of Bloom’s Taxonomy of Education Objectives

Lesson Title: Complete a group project to successful illustrate shared databases, importing and relationships.

Grade level for the lesson: 9th-12th grade

Essential Standards Curriculum (Subject) Area(s): Microsoft IT Academy – Excel and Access

Essential Standard Statement and Number: BM20 2.00 Understand basic database software skills using Microsoft Access.

Essential Standard Clarifying Objective Statement and Number:
2.01 Understand how to manage the Access environment.
2.02 Understand how to build tables in Access.

Baseline Data: This class is an honors level course. Students typically have completed Microsoft IT academy Word and PowerPoint before this class but it is not necessary. This class has no students with special needs.

**Lesson Objective:** After the lesson, students will be able to:

1. Create a relationship between two tables.
2. Import a table from one database into another.

**Assessment Strategy:** Students will be given a group assignment to each create a database and import one into the other to create a relationship. I will group students based on ability so that a stronger student is in a group with a weaker student. Successful completion of the import and relationship by the group will result in achievement of this objective.

**Focus/Review:** Students will review and discuss relationships and importing.

**Statement of Objective:** Today, we are going to create a database independently and import a database table to create a relationship.

**Academic Language:**

One to Many Relationship: Table A can have many matching records with Table B, however Table B records can only match one record from Table A.

One to One Relationship: Table A and Table B can only match up with one record from each.

Import: To bring data into a program from another location.

Primary Key: A field that uniquely defines a record.
Teacher Input:

Teacher will begin by completing warm-up activity (Warm Up Activity: Access Data) reviewing the parts of a database. Teacher will then explain how to import tables into a database from another table. Teacher will discuss what types of files can be imported into Access. Teacher will review the process to create a database relationship (Guided Notes).

Review with students by asking these questions:

  Explain what you must have to create a relationship.

  Explain a Primary Key

  Explain (show examples):
   - One to Many relationships
   - Many to Many relationships
     Teacher will show students how to create a relationship.

  Explain Referential Integrity
   - How is it important in business?
   - What can cause issues when enforcing referential integrity?

Teacher will go over assignment for today dealing with Global Industries Database (Grouping Instruction Part A, B, & C).

Guided Notes

MSITA Excel & Access – Database Relationships

What is a database relationship and what are the benefits?

What is a primary key? Give an example:

What are two types of relationships? Give an example of each:

What tab do you click to open up the relationship command?
Guided Practice: None

Independent Practice: Monitor students as they complete Global Database.

Closure: Review the process of relationships and importing with students

Modifications if any: None

Works Cited


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Global Industries (A)

1) As an employee of Global Industries your job is to keep a database of all companies you conduct business with. Below are the companies you have begun investing with, they can all be found on the Global 500 list. Determine the appropriate data types and field names for this database Table. Name the Database Global Industries International Group, Name the Table Global Industries Contacts. The last field is the Embassy-Consulate ID (Primary key)

1) Two local companies are the subsidiary of a larger parent company that you would like to make contact with, you must add these into your database.
   • Metrics Pharmaceutical is a subsidiary of
Click the icon to the right to answer questions about Grouping Strategies.

Now that you have completed the CTE Procedural Grouping Module click the link to open TaskStream in your browser. Login to respond to the reflection questions.
Resources


**Credits**

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**Instructional Strategies**

<table>
<thead>
<tr>
<th>Organizer Type</th>
<th>Concept Learning</th>
<th>Question &amp; Review</th>
<th>Grouping</th>
<th>Assessment</th>
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<tbody>
<tr>
<td>Graphic Organizers</td>
<td>Examples &amp; Non-Examples</td>
<td>Higher Order Questions</td>
<td>Think-Pair-Share</td>
<td>Formative</td>
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<tr>
<td>Advance Organizers</td>
<td>Compare &amp; Contrast</td>
<td>Games</td>
<td>Jigsaw</td>
<td>Summative</td>
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| Total Score | 89.5 |

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