Effective Room Arrangement: Elementary

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*For an Instructor’s Guide to this case study, please email your full name, title, and institutional affiliation to the IRIS Center at iris@vanderbilt.edu.*
Licensure and Content Standards

This IRIS Case Study aligns with the following licensure and program standards and topic areas.

**Council for the Accreditation of Educator Preparation (CAEP)**

CAEP standards for the accreditation of educators are designed to improve the quality and effectiveness not only of new instructional practitioners but also the evidence-base used to assess those qualities in the classroom.

- **Standard 1: Content and Pedagogical Knowledge**

**Council for Exceptional Children (CEC)**

CEC standards encompass a wide range of ethics, standards, and practices created to help guide those who have taken on the crucial role of educating students with disabilities.

- **Standard 2: Learning Environments**

**Interstate Teacher Assessment and Support Consortium (InTASC)**

InTASC Model Core Teaching Standards are designed to help teachers of all grade levels and content areas to prepare their students either for college or for employment following graduation.

- **Standard 3: Learning Environments**

**National Council for Accreditation of Teacher Education (NCATE)**

NCATE standards are intended to serve as professional guidelines for educators. They also overview the “organizational structures, policies, and procedures” necessary to support them.

- **Standard 1: Candidate Knowledge, Skills, and Professional Dispositions**

**The Division for Early Childhood Recommended Practices (DEC)**

The DEC Recommended Practices are designed to help improve the learning outcomes of young children (birth through age five) who have or who are at-risk for developmental delays or disabilities.

- **Topic 3: Environment**
Effective instruction is fostered in a supportive classroom environment. Teachers can create supportive environments in a number of ways. In addition to developing significant relationships with students, celebrating student’s cultural diversity, and creating a safe learning space, teachers can arrange their classrooms to promote student learning and interaction. **Effective room arrangement** refers to teachers arranging the physical elements of the classroom (e.g., seating, materials) to help establish a learning environment that facilitates student growth. Well-designed classroom environments:

- Decrease the likelihood of inappropriate student behavior
- Facilitate appropriate social interactions among students
- Provide structure and predictability
- Increase academic engagement
- Positively impact student performance

With an effective classroom arrangement, teachers can facilitate different instructional activities and support the varying needs of the students. Additionally, they can prevent disruptive behaviors and the loss of instructional time. Each classroom is unique and has different needs. For this reason, there is no one best way to design the classroom environment. However, teachers can design effective classroom arrangements using the practices described in this case study unit:

- Facilitating efficient traffic patterns
- Supporting frequent interaction and monitoring
- Maximizing teaching and engagement
- Minimizing distractions

These practices will be explored on the following IRIS STAR Sheets.

**Resources**


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**What a STAR Sheet is…**

A STAR (STrategies And Resources) Sheet provides you with a description of a well-researched strategy that can help you solve the case studies in this unit.
About the Strategy

Facilitating efficient traffic patterns involves arranging the physical aspects of the classroom (e.g., materials, equipment, other students) to ensure that teachers and students alike can move through the room and access materials without difficulty.

What the Research and Resources Say

- Eliminating physical barriers and providing ample walkways can facilitate students’ and teachers’ movement and prevent them from colliding with objects or each other or interrupting each other’s work (Jones & Jones, 2007).
- By intentionally designing and managing effective traffic patterns, teachers can increase classroom safety (Sprague, 2007).
- Effective traffic patterns and easy accessibility to storage, resources, and tools are important components of conducive learning environments (Evertson & Emmer, 2017).
- Flexible access to furniture, equipment, and supplies helps establish student independence in the learning environment. (HEFCE, 2006)
- Students are more likely to use instructional materials that are easy to access (Gettinger & Fischer, 2015).

Strategies to Implement

- Arrange the classroom to promote a smooth traffic flow that avoids areas getting congested or going unsupervised.
- Assess the classroom for the presence or absence of the “bump factor.” Challenging behaviors (e.g., academic and social-emotional) are more likely to occur if students or teachers are routinely bumping into each other, others’ belongings, or tables and desks.
- Place frequently utilized supplies, equipment, and materials in easy-to-reach locations.
- Create walking space between and around classroom furniture and equipment and remove any unused or unnecessary furniture and equipment.
- Teach students procedures and routines for activities that require movement, including transitioning between activities, accessing materials and supplies, and practicing emergency drills and other safety procedures.
- Remove unused or unnecessary equipment and furniture from the classroom to facilitate efficient traffic patterns.
Keep In Mind

- A simple way to test the traffic patterns in the classroom is to walk through all the designated areas with the chairs placed as though students were seated in them.
- In the event of an emergency, blocked walkways can be problematic or even hazardous. For this reason, it is a good idea to make note of items that hinder efficient traffic patterns while practicing emergency drills.
- Some students, such as those who use wheelchairs and walkers, may benefit from additional space for movement (e.g., wider aisles) as well as storage for any special equipment.

For Your Information

Efficient traffic patterns allow teachers to more easily incorporate purposeful movement during instruction (e.g., physical games, hands-on tasks, role plays). This type of movement has many benefits, such as helping students to:

- Contend with anxiety (especially those who live in poverty and experience chronic stress)
- Process information
- Maintain engagement
- Increase their positive attitudes and motivation
- Reduce off-task behavior
- Improve academic achievement

Resources


About the Strategy

**Supporting frequent interaction** involves arranging the physical aspects of the classroom (e.g., materials, equipment, desks) to ensure that the teacher can move throughout the classroom to more efficiently access, engage with, and monitor student learning and behavior.

What the Research and Resources Say

- Teacher interaction with students is correlated to student seating location (Good & Brophy, 2008; Evertson & Emmer, 2017; Rogers, 2011; Weinstein & Romano, 2014).
- When teacher-to-student interactions increase, positive adult-student relationships develop and the occurrence of problem behaviors decreases. (Colvin, Sugai, Good & Lee, 1997; Simonson & Myers 2015)
- Frequent teacher movement encourages students to remain on-task and offers the teacher insight into student discussions, work, and progress (Weinstein & Romano, 2014).
- When the teacher was in close proximity, the rate and probability of student engagement following an adult directive increased (Conroy, Asmus, Ladwig, Sellers, & Valcante, 2004).
- Effective monitoring and supervision require that the teacher move frequently throughout the classroom and maintain constant lines of sight to each student (Evertson & Emmer, 2017).

Strategies to Implement

- Circulate among students as they work (e.g., independently, in small groups) to assess and address each student’s academic and behavioral needs.
- Frequently move throughout the room when providing instruction to monitor student engagement and performance.
- Move throughout the classroom with purpose so as not to distract students unnecessarily.
- Create a clear line of sight to students to easily monitor them from any location.
- Consciously place bookcases, file cabinets, and other pieces of equipment so as not to block accessibility to students. Check for blind spots by standing in different locations in the room.

Keep In Mind

- By continuously moving throughout the classroom, the teacher can maintain proximity to all students, thereby heightening students’ attention to tasks and expected behaviors.
- Frequent movement among the students allows the teacher to offer immediate learning assistance to students and to provide frequent encouragement and timely feedback, all of which increases student engagement.
- Some students will benefit from more frequent teacher interaction and monitoring.
Resources


About the Strategy

Matching room arrangement with instructional format involves promoting student academic and social-emotional learning by arranging the classroom to facilitate the lesson and supporting activities.

What the Research and Resources Say

- Seating arrangements should match the instructional format (e.g., whole-group, small-group) because these arrangements establish both academic and social expectations (Chance, 2015; Evertson & Emmer, 2017; Gremmen, van den Berg, Segers, & Cillessen, 2016; Weinstein & Romano, 2014; Wong & Wong, 2009).
- Flexible room arrangement supports the use of a variety of instructional formats (e.g., whole-group, small-group, individual), which keep students actively engaged (Wong & Wong, 2009; Yoder, 2014).
- Grouped seating arrangements can increase student social interaction, while seating in rows can increase on-task behavior and the amount of independent work that students complete (Gremmen, van den Berg, Segers, & Cillessen, 2016; Wong & Wong, 2009).
- Room arrangements that support collaborative activities can improve social interactions among peer learners, which in turn can help improve student academic performance (HEFCE, 2006).

Strategies to Implement

- For each lesson, select an instructional format and then choose a room arrangement that best supports it.

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<th>Room Arrangement</th>
<th>Benefits</th>
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| Independent work (e.g., tests, lectures) | Seats are arranged in rows or paired rows (see examples A and B on next page) | • Allows student to focus on the teacher  
• Increases positive behaviors (e.g., raising hand for assistance)  
• Promotes on-task behavior during independent work |
| Group work (e.g., learning centers, small-group discussions) | Seats are arranged in clusters (see examples C and D on next page) | • Facilitates interactions among group members  
• Allows students to attend to instruction or independent work |
Instructional Arrangement | Room Arrangement | Benefits
--- | --- | ---
Demonstrations or discussions | Seats are arranged in a U-shape or multiple U’s of five or six students (see examples E and F on next page) | • Allows all students to have direct eye contact with the teacher and their peers
• Promotes greater communication among the group
• Involve students in designing effective arrangements for different instructional formats to increase their engagement in academic learning and to build ownership of the classroom.
• Teach students to rearrange the classroom for specific instructional formats when provided a verbal or visual cue. Successful student rearrangement requires practice.
• Provide a clear line of sight from wherever the students are seated to wherever instruction is being provided (e.g., smart board, overhead projector screen, demonstration table).
Possible Room Arrangements

Independent Work / Tests / Beginning of the Year / Lecture

Group Work / Stations

Demonstration / Discussion
Keep In Mind

• Different instructional formats may require different room arrangements.
• Continual rearrangement of the classroom can be disruptive. Teachers should plan their room arrangement to fit the majority of the day’s instruction and find ways to adjust this arrangement to meet other lesson purposes only when necessary.
• When designing seating arrangements to support different instructional formats, teachers should make sure there is enough room to move freely about the classroom and to monitor student engagement.
• Students who have their back to an instructional area can more easily avoid engaging with the lesson than those who are facing the area.
• U-shape classroom arrangements are most effective with classes of 20 or fewer students. For larger classes, teachers may want to create multiple smaller “U’s” of five or six students.

Resources


About the Strategy

Minimizing distractions and disruptive events involves arranging the physical aspects of the classroom (e.g., materials, equipment, students’ desks) to reduce distractions and the occurrence of challenging behaviors that might interfere with a student’s learning.

What the Research and Resources Say

• Effective teachers proactively prevent distractions and disruptive events by purposefully organizing the materials and space in their classrooms (Stronge, Ward, & Grant, 2011).
• By minimizing distractions, teachers can increase students’ sense of psychological safety in a classroom. This is particularly important for students experiencing stressful situations or events (e.g., poverty, homelessness, abuse) (Weinstein & Romano, 2014).
• Teachers identified crowded rooms as settings that foster challenging behaviors (McGill, Teer, Rye, and Hughes, 2005). On the other hand, when children have more space, the quality of interpersonal interactions with peers and teachers is improved regardless of room design (Maxwell, 2003).

Strategies to Implement

• Identify potential distractions in the classroom, which might include items (e.g., windows, doors, aquariums), equipment (e.g., computers), noise (e.g., pencil sharpener), and individuals.
• Sit at each location in the classroom to experience potential distractions that students might encounter.
• Relocate items, equipment, or individuals as needed to minimize distractions.
  ◦ Arrange high-traffic areas (e.g., pencil sharpener, trash can) to avoid congestion and to minimize distraction caused by their use.
  ◦ Arrange classroom elements (e.g., desks, carpeted areas) to avoid crowding.
  ◦ Provide work areas that are quiet and distraction-free.
• Position the desks of students with challenging behaviors (e.g., academic and social-emotional) near areas with limited distractions and greater access to work materials and teacher support.

Keep In Mind

• Individual students find different items, equipment, noise, and individuals distracting.
• Although some items cannot be relocated, the teacher can minimize their disruptive effects through other means. For example, a distracting computer monitor might be turned to a different angle or blocked by a temporary partition (e.g., a trifold display).
• Well-thought-out room arrangement can help reduce student distractions when incompatible activities (e.g., silent reading and small-group instruction) are taking place at the same time.
Resources


Background

Student: Liam
Age: 8.3
Grade: 3rd

Scenario

Liam is a 3rd grader who has autism spectrum disorder (ASD). During independent work time, he is easily distracted by noise and movement and often does not finish his work or completes it haphazardly. Liam also struggles with taking social cues from peers and often violates others’ personal space. One accommodation in Liam’s IEP is that he be seated near the dry erase board where the independent work directions are written. However, after sketching the classroom arrangement (below), his teacher begins to suspect that Liam’s off-task behavior may be a result of his seating location (starred). His teacher has decided to rearrange the classroom so that Liam will achieve the following goals within six weeks:

• Increase the amount of time on-task during independent work
• Increase the number of assignments completed

Possible Strategies

• Facilitating Efficient Traffic Patterns
• Supporting Frequent Interaction
• Matching Room Arrangement with Instructional Format
• Minimizing Distractions and Disruptive Events
Assignment

1. Read the STAR Sheets on the possible strategies listed above.
2. Identify four issues (one related to each strategy) related to room arrangement that might contribute to Liam being distracted and not completing his independent work.
Background

Student: Harper
Age: 7.1
Grade: 1st

Scenario

Harper has been diagnosed with a syndrome that is characterized by fragile bones. For Harper, simple jostling or bumps can result in broken bones. She walks with leg braces and uses a walker. She missed much of her first-grade year because of her condition and is therefore repeating first grade. Harper is protectively seated beside the teacher’s desk, separate from the other students. At this location, Harper has a place to put her walker for easy access. Her academic work demonstrates that she is making adequate progress; however, her social skills are less developed than that of her peers. With this information in mind, the teacher has decided to reassign Harper’s seating location to help her achieve the following goals within nine weeks:

- Increase her positive interactions with peers
- Increase her safe movement to and from the group table for small-group reading instruction and into and out of the classroom

Possible Strategies

- Facilitating Efficient Traffic Patterns
- Supporting Frequent Interaction
- Matching Room Arrangement with Instructional Format
- Minimizing Distractions and Disruptive Events

Assignment

1. Read the STAR Sheets on the possible strategies listed above.
2. Using these strategies, explain why each of the seating locations indicated on the diagram below (A, B, and C) is either suitable or not suitable for helping Harper to meet her goals.
Background

Student: Marcus
Age: 7.5
Grade: 2nd

Scenario

Marcus is a 2nd-grader with ADHD. Whether tapping his pencil, adjusting his seat, sharpening his pencil, “shooting baskets” with his trash, or walking through the room, Marcus seems to be in constant motion. During independent work, he is often off-task. This is particularly the case when his teacher is working with a small group at the group table. The teacher interrupts the small group on a regular basis to try to refocus Marcus on his independent work. After speaking with a colleague, the teacher recognizes that she may not be planning enough physical activity during the instructional day to address Marcus’s needs. She also created a diagram of the classroom (below) and recognized that there are several distractions that might lead to Marcus’s off-task behavior. The teacher is planning to enhance her lesson plans with physical activities and to rearrange the classroom or relocate Marcus’s seating position (indicated below with a red star) to help him meet the following goal in four weeks:

• Increase the amount of time on-task during independent work

Possible Strategies

• Facilitating Efficient Traffic Patterns
• Supporting Frequent Interaction
• Matching Room Arrangement with Instructional Format
• Minimizing Distractions and Disruptive Events
Assignment

1. Read the STAR Sheets on the possible strategies listed above.
2. Referencing the classroom sketch above, list two potential sources of distraction for Marcus.
3. Discuss two changes you would make to the classroom arrangement to help Marcus meet his goal? Explain your rationale.
Effective Room Arrangement: Elementary
Level B • Case 2

Background

Students: Oliver  Aliyah  Abigail  Paulo
Ages: 9.2  9.7  9.5  10.4
Grade: 4th  4th  4th  4th

Scenario

Following their mathematics class with the special education teacher, Oliver, Aliyah, Abigail, and Paulo rejoin their general education class for social studies. The special education teacher has suggested that the social studies teacher place these fourth graders at seating locations separate from one another, so as to allow them to have more opportunities to interact with their peers. To help facilitate their seating assignments, the special education teacher offered the following information:

Oliver
- Needs to be near the dry erase board to see written material or near the demonstration table to see demonstrations
- Is easily distracted by other students
- Likes to volunteer to help the teacher

Aliyah
- Is shy
- Is easily distracted, especially by computers
- Does a good job of pretending to be on-task when she does not understand how to do something or isn’t interested

Abigail
- Is talkative
- Will try to monopolize the teacher’s attention
- Is a strong reader

Paulo
- Loves science
- Gets along well with other students
- Works well in groups
- Needs to be provided tactile experiences
- Requires a wheelchair for mobility

Possible Strategies
- Facilitating Efficient Traffic Patterns
- Supporting Frequent Interaction
- Matching Room Arrangement with Instructional Format
- Minimizing Distractions and Disruptive Events
Assignment

1. Read the STAR Sheets on the possible strategies listed above.
2. Assign each of the four students one of the lettered seats in the classroom sketch below.
3. Explain why you selected these specific seating locations and indicate which strategies you used to make your decisions.
Background

Student: Ava
Age: 10.8
Grade: 5th

Scenario

Ava is a fifth grader who has recently increased the amount of time she spends in her general education classroom to two hours. During this block of time, the class works for 45 minutes on math, one hour on social studies or science (alternating each week), and 15 minutes on independent reading. Mathematics instruction typically involves working with a partner. Social studies and science instruction vary in format from paired to small-group to whole-group based on the unit of study. Independent reading is conducted with students seated at their individual desks. Although she has made progress this semester and is reading at the second-grade level, Ava remains a reluctant reader and is often distracted. Ava’s teachers anticipate that her strengths will help her be successful in the general education classroom.

Areas of Strength

- Participates well in group activities
- Has a strong interest in science and social studies
- Follows oral directions well

Assignment

1. Review all of the STAR Sheets.
2. Complete the room arrangement below to meet the class’s instructional needs and to better support Ava by sketching the furniture shown in the key to include:
   a. 22 student desks, including one designated with a star for Ava
   b. teacher desk
   c. group table
   d. trash can
3. Explain your rationale for both the sketched classroom arrangement and Ava’s seating location. Identify which strategy(ies) you used to make your decisions.