

TBTE407 –Documentation for Lesson Plan #2  
Dr. Bishop

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Changes to Lesson Plan

The Interactive White Board (SmartBoard) demonstration was changed to a live demonstration video taped and presented as an iMovie. Interactive White Board technology did not provide exactly what I was looking for in this presentation.

## General Lesson Plan Format Nine Event Model

Lesson Name: Bubble Diagram Lesson #2 ID: Mary Jo Brown

Grade/Subject: 12<sup>TH</sup> Grade / Drafting and Design

### Lesson Objectives:

#2 After viewing a white board presentation showing how to relate room layouts to traffic flow in floor plan layouts, the twelfth grade design and drafting student will demonstrate his/her understanding of space relationships by interpreting space layouts implementing bubble diagrams with concept mapping software.

#3 Given the white board presentation, the student will demonstrate her/his ability to analyze how the functional organization of rooms contribute to the quality of the living space by sketching floor plan layouts based on traffic flow explored in his/her bubble diagram.

### State Standards Addressed by Lesson:

#### Academic Standards for Science and Technology

Technology Education 22 Pa.Code, Ch.4, Appendix B

#### 3.6.12. Grade 12

- Apply knowledge of construction technology by designing, planning and applying all the necessary resources to successfully solve a construction problem.

This lesson provides instruction to assist him/her in the application of construction principles to successfully begin to develop and design a residential floor plan using the AutoCAD program.

### Instructional Strategy:

The instructional strategy for a major portion of this lesson follows a teacher-centered direct instruction. Modeling is done by the teacher to help students learn the various strategies and skills involved in this process.

### Media Selection:

The lesson will include an iMovie demonstration to illustrate the use of the concept mapping software Inspiration. The iMovie is a compilation of three different media: 1) video, 2) PowerPoint, and 3) Camtasia capture of Inspiration software.

Inspiration is the software students will use to "bubble diagram" space layouts. The Inspiration software is a technology tool that can be useful for students to develop, interpret, evaluate, and analyze relational space layouts. The software can make clear the relationships between foot traffic flow of the occupants and functional room layouts. I

Instructional Materials (List items here, then append actual artifacts to lesson plan):

iMovie (Artifact #3 - included in this lesson plan as an MS Word document)

Inspiration software program (Artifact #4 - included in this lesson plan as an MS Word document with screen shots of a sample bubble diagrams)

All documents are saved in my public space H:\home12.ad.lehigh.edu\M-Z\mjbg\public\Unit

Assessments (List items here, then append actual documents to lesson plan):

#### Pretest

Peer critique of sketches: verbal peer critique of each other's sketches - students analyze functional floor plans - informal formative by observing student's verbal responses to student's sketches.

Compare bubble diagrams to sketches: verbal peer critique of sketches - students analyze functional floor plans - informal formative by observation.

#### Posttest

Bubble diagram exercise: hand in for grading-formal summative using a criterion rubric.

Students revise sketches on paper: hand in for grading - formal summative using a criterion rubric.

**Instructional Plan:**

Event (E1-E9)	Group 1	Group 2 Students requiring a little more assistance	Group 3 Students requiring a little less assistance
E1 Gaining Attention	The beginning of the lesson will start off by students hanging their preliminary sketches (from Lesson 2a) on the wall for a group peer critique.		
E2 Inform Learner of Objectives	Teacher verbally informs the students of the objectives of the lesson. The objectives relate how relates?	Ask students to write objectives on the chalkboard.	Ask students to help with spelling and word order.
E3 Stimulate Recall of Prerequisite Learning	This is the second part of the lesson. Teacher reviews first part of lesson.	Emphasize material relevant to the second part of the lesson.	
E4 Present Stimulus Material	The teacher verbally presents room layout design problems, emphasizing the functional purpose of architectural residential design.	Emphasize solving problems in the design phase, and before the construction phase	
E5 Provide Learning Guidance	The teacher poses questions to students asking for suggestions to solve layout design problems.		
E6 Elicit Performance (formative)	Students verbally respond to layout design problems.	Ask students to recall any design problems they may have encountered in their own living spaces.	

Event (E1-E9)	Group 1	Group 2 Students requiring a little more assistance	Group 3 Students requiring a little less assistance
E7 Provide Feedback on Performance	The teacher validates student's responses by emphasizing problem and solution.		
E4 Present Stimulus Material	A video demonstration is used to demonstrate the freehand sketching and using Inspiration to draw diagrams.	Make sure all students can see and hear the presentation.	
E5 Provide Learning Guidance	Students use computers at their desks to follow the instructions after the initial demonstration by the teacher.	The teacher reviews the steps as each student moves forward.	
E6 Elicit Performance (formative)	Students draw a bubble diagram relating functional space relationships to foot-traffic flow.	Teacher goes around room to help.	
E6 Elicit Performance (formative)	Students print out their bubble diagrams and hang them next to their sketches.		Students who are finished can help other students print and hang their sketches.
E7 Provide Feedback on Performance	Students examine and compare their sketches to their bubble diagrams.		
E7 Provide Feedback on Performance	The teacher verbally points out the sketches and bubble diagrams that best address the relationship between foot-traffic flow and room layouts.	The teacher points out whether their bubble diagram or their sketch comes closer to representing the best design.	

Event (E1-E9)	Group 1	Group 2 Students requiring a little more assistance	Group 3 Students requiring a little less assistance
E5 Provide Learning Guidance	The teacher explains why he/she thinks the sketches and bubble diagrams provide solutions to the room layout designs. The teacher verbally explains to the class any material the students have not grasped.	The teacher marks up sketches to show better design solutions.	
E8 Assess Performance (summative)	Students revise their sketches on paper applying the new information learned and students hand in a copy of their bubble diagram and revised sketches for grading.		
E9 Enhance Retention and Transfer	Students are encouraged to continue working on their designs at home. Students draw a bubble-diagram of their own home (or take home a pre-printed one) and document their own movements though their house on the bubble diagram.	The teacher can have pre-printed bubble diagrams of various room layouts prepared from class discussion about their own home.	

## Documentation for Artifact #3 iMovie

### “Bubble Diagram” Lesson

This lesson is presented to the students as an iMovie. The iMovie is a compilation of three different media:

1) video, 2) PowerPoint, and 3) Camtasia capture of Inspiration software.

All are saved in iMovie using the some of the PowerPoint slides as transitions within the iMovie.

#### **The Video**

The video is a live demonstration of how to sketch a simple Bubble Diagram. The lesson includes a verbal description of what a bubble diagram is and a visual description of what a bubble diagram looks like. The demonstration includes freehand sketching on a white board with markers. It is approximately two minutes long.

#### **The PowerPoint**

The PowerPoint is the instructional part of the lesson that informs the student of the lesson’s objectives, provides a review of bubble diagrams, and introduces the software Inspiration.

##### *Slide 1*

What is a bubble diagram.

##### *Slide 2*

What is the purpose of a bubble diagram

##### *Slide 3*

What doesn't a bubble diagram show

##### *Slide 4*

Considerations

##### *Slide 5*

Sample of a basic diagram

##### *Slide 6*

Sample of an advanced diagram using Inspiration

Samples from the PowerPoint:

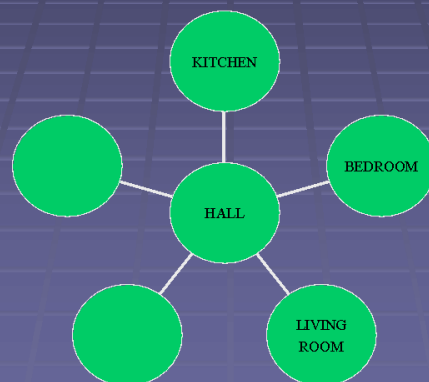
## Bubble Diagram

### What is a Bubble Diagram?

- A bubble diagram is a sketch of convenient shapes, such as circles or squares, that represent rooms in a floor plan.
- The sketches consider traffic flow in relation to room placement.

## Bubble Diagram

### Basic Diagram



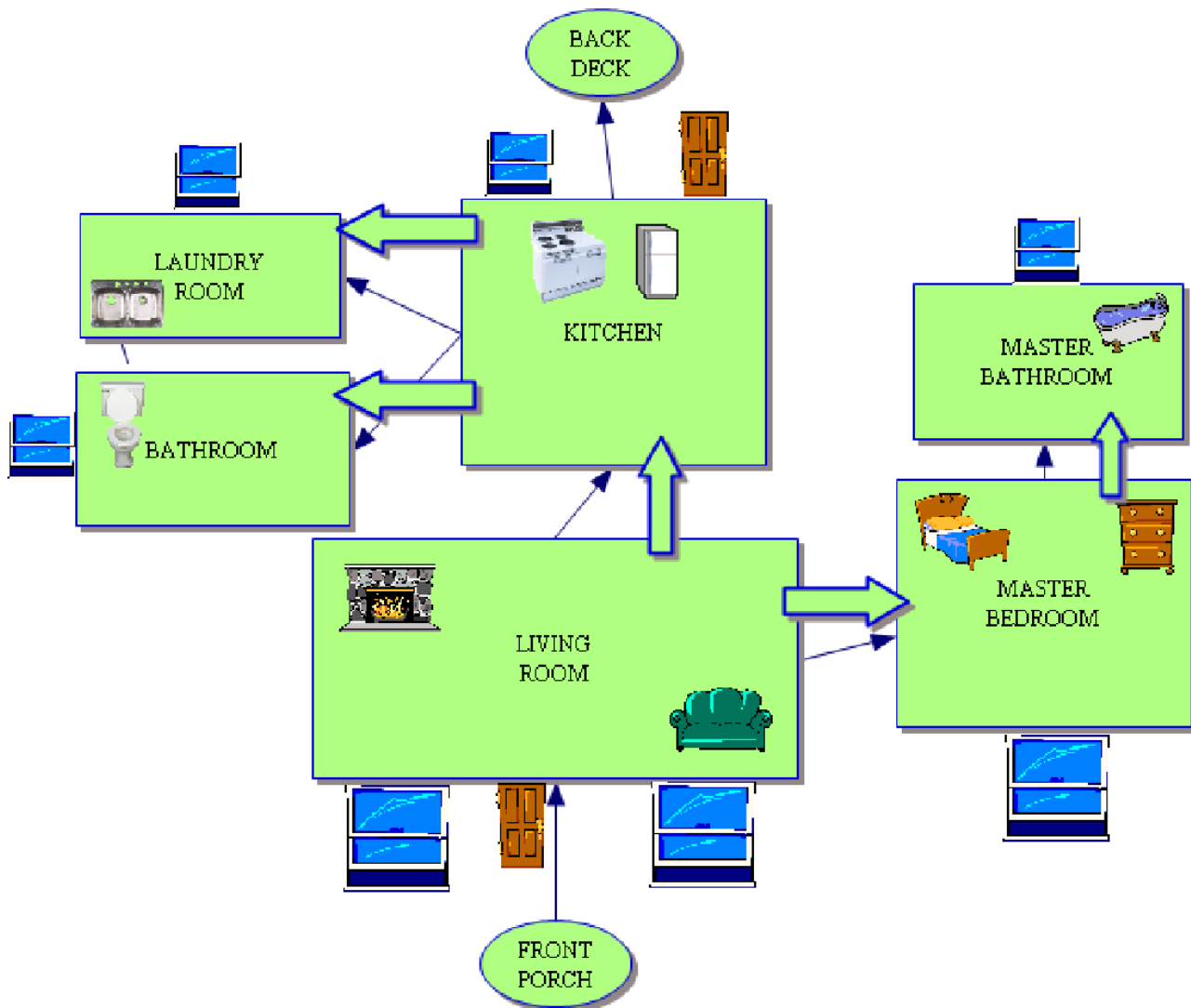


## Documentation for Artifact #4 Inspiration software

**Inspiration**

The students are given a “how to” demonstration on creating a bubble diagram in Inspiration.

Sample from Inspiration Artifact #4:



<b>Sketches</b>	Excellent 10 - 9	Very Good 8 - 7	Average 6 - 5	Poor 4 - 3	Score
<b>Essential rooms included in sketches</b>	Sketches included more than the required essential rooms	Sketches included all essential rooms	Sketches included most of the essential rooms	Sketches missing essential rooms	
<b>Rooms labeled according to use</b>	All rooms were labeled appropriately	Most rooms were labeled appropriately	Some rooms were labeled appropriately	No rooms were labeled	
<b>Drawing skills</b>	Student used exceptional freehand drawing skills	Good drawing. Easy to understand all parts.	Sloppy drawing. But, could read room labels	Sloppy drawing. Could not read room labels	
<b>Room layouts</b>	Student used the Bubble Diagram to accurately draw room layouts in sketches	Student used most of the elements of the Bubble Diagram to accurately draw room layouts in sketches	Student used some elements of the Bubble Diagram to accurately draw room layouts in sketches	Student did not use Bubble Diagram to accurately draw room layouts in sketches	
<b>TOTAL SCORE</b>					

Rubric for sketches of room layout

Student: \_\_\_\_\_

<b>Bubble Diagram (BD)</b>	Excellent 10 - 9	Very Good 8 - 7	Average 6 - 5	Poor 4 - 3	Score
<b>Essential rooms included in BD</b>	BD included more than the required essential rooms	BD included all essential rooms	BD included most of the essential rooms	BD missing essential rooms	
<b>Rooms labeled according to use</b>	All rooms were labeled appropriately	Most rooms were labeled appropriately	Some rooms were labeled	No rooms were labeled	
<b>Rooms appropriately related to foot traffic flow</b>	All rooms did appropriately relate to foot traffic flow	Most rooms did appropriately relate to foot traffic flow	Some rooms did appropriately relate to foot traffic flow	Rooms did not appropriately relate to foot traffic flow	
<b>Bubble Diagram used for sketches</b>	Student used BD to draw room layouts in sketches	Student used most of the BD to draw room layouts in sketches	Student used some of the BD to draw room layouts in sketches	Student did not use BD to draw room layouts in sketches	
<b>TOTAL SCORE</b>					