BISOCIATION IN-CLASS ACTIVITY #2

A Deeper Dive

Instructor Notes on Lesson

Expected Time: 40 minutes

When to Implement: Bisociation, being an ideation methodology, should be introduced as a way to come up with possible design solutions (after painstorming is covered, if it is). The Bisociation video should be shown first and this would be an appropriate in-class activity to immediately follow. If the other provided bisociation activities are being used, this should be used after "Bisociation In-Class Activity #1" as this builds upon the activity done there.

Class Set-Up: Teams of approximately 4 where individuals will be able to work individually, with a partner, and as a team throughout the activity.

Materials Needed:

- A classroom projector to project the stimulus photos presented later in this packet
- A student handout has been created and can be distributed to help structure the activity worktime, though scrap paper can also be used.

Learning Outcomes:

At the completion of this activity, students will be able to:

- Create and apply a "stimulus list"
- Compare and contrast the solutions generated from three different "levels" of brainstorming/bisociation

Instructor Guide:

After watching the Bisociation video, put the class in teams of 4 and provide them the guided handout (attached at the end of this packet). They will be doing some tasks individually, some with a partner, and some as the team of four.

INTRODUCTORY DIALOGUE:

Instructors should explain to the class the process and usefulness of bisociation as an ideation technique. Instructors should remind the class that as mentioned in the video bisociation has added benefit over traditional brainstorming because it is a strategy that helps you think beyond those ideas you already have in mind. Therefore when it is used it should result in more ideas – and especially more unique or "game changing" ideas. Bisociation can be done with related stimulus – products that are already similar to what you will now be designing (for example in the video, the related medical devices). It is better, however, to do bisociation by using an unrelated, random stimulus (such as the shark in the video) and including diverse perspectives throughout the process. This activity will be a chance to practice these different ways of coming up with ideas so you can judge how effective each one is.

Part 1. Pose the Problem to be Solved [1 minute]

- The instructor can choose any problem definition that they would like. An example of one that can be used is: "You recently became the CEO of Kitchen Goods R' Us and you have tasked your company with coming up with a game-changing new product or service related to the kitchen."

Part 2. Allow Individuals to Traditionally Brainstorm [3+ minutes]

- Give students approximately 3 minutes to individually brainstorm new product ideas using traditional methods (e.g. listing what comes to mind). A structured handout is provided and can be used for tracking ideas. At the end of the traditional brainstorming time, students should review their list, counting and recording the total number of ideas at the top of the page and circling their best idea from the list.

Part 3. Utilize a Related Stimulus [7+ minutes]

- Project the Powerpoint slide that shows the related stimulus onto the screen. For instructors using the prompt above, several related images that can be used are included with this packet. Any one of them may be used.

- The instructor should introduce the guided notesheet that should be used to create the stimulus list. This is more formally structured to help students as they begin to make stimulus lists. Note that there are other categories that could be included if an instructor desires.

- Have students first individually create the stimulus list. After approximately two minutes, allow them to work with a partner, listing as much as they can.

- Move on to letting students, working in pairs, begin to come up with possible design ideas that are inspired by this stimulus list. A notesheet is included in this packet to help with this.

- Students should review the list of ideas they made using related stimulus, counting and recording at the top of the page and circling their best idea.

Part 4. Utilize a Unrelated Stimulus [10 minutes]

- Project the Powerpoint slide that shows the unrelated stimulus onto the screen. For instructors using the prompt above, several unrelated images that can be used are included with this packet. Any one of them may be used.

- The instructor should remind students that they will use the guided notesheet to help them create the stimulus list.

- Have students first individually create the stimulus list. After approximately two minutes, allow them to work as a team, listing as much as they can on the handout.

- Move on to letting students in teams of 4 begin to come up with possible design ideas that are inspired by this stimulus list. A notesheet is included in this packet to help with this.

- Students should review the list of ideas they made using related stimulus, counting and recording at the top of the page and circling their best idea.

Part 5. Report Out and Discussion [5 minutes]

- Have students give examples to the class of the “best” idea they reached at each level of brainstorming/bisociation. Use this as a chance to ask questions about what led to the design idea.

- Ask the class for a raise of hands for the number of students who found that they generated more ideas once they began to use bisociation. Were the ideas better, or just non-sense? Was it easier to use random stimulus or related stimulus?

Part 6. (Optional) Individual Wrap-Up

To wrap up this activity, instructors may wish to use the provided student wrap-up sheet.

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STIMULUS TO ACCOMPANY ACTIVITY – PART 3, RELATED STIMULUS

"Making School Lunches"

Image from:
https://www.healthyeating.org/Portals/0/Gallery/Album/Healthy%20Kids/mom_daughter_kitchen1%20(1).jpg

Created by: Kim Bigelow, PhD; University of Dayton for KEEN Topical Grant

BISOCIATION IN-CLASS ACTIVITY #2

A Deeper Dive

STIMULUS TO ACCOMPANY ACTIVITY – PART 3, RELATED STIMULUS

"Assorted Kitchen Tools"

Image from: http://cdn.foodbeast.com/content/uploads/2016/10/Essential-Kitchen-Tools.jpg

BISOCIATION IN-CLASS ACTIVITY #2

A Deeper Dive

STIMULUS TO ACCOMPANY ACTIVITY – PART 3, RELATED STIMULUS

"Making Pizza"

Image from: http://www.kuali.com/wp-content/uploads/2015/04/Pizza.jpg

BISOCIATION IN-CLASS ACTIVITY #2

A Deeper Dive

STIMULUS TO ACCOMPANY ACTIVITY – PART 4, UNRELATED STIMULUS

"Golf Course"

Image from: http://zeimg.com/uploads/wallpapers/3/Natureza/Paisagens/Beautiful-Golf-Course.jpg

Created by: Kim Bigelow, PhD; University of Dayton for KEEN Topical Grant

BISOCIATION IN-CLASS ACTIVITY #2

A Deeper Dive

STIMULUS TO ACCOMPANY ACTIVITY – PART 4, UNRELATED STIMULUS

"Van Gogh's Starry Night"

Image from: http://2.bp.blogspot.com/-Yw_LslxYx6M/TegDnRaiB3I/AAAAAAAAAdY/q0ZPDW6rK-Y/s1600/Van_Gogh-Starry_Night-Best-KensFavorites-com-CMP80.jpg

Created by: Kim Bigelow, PhD; University of Dayton for KEEN Topical Grant

BISOCIATION IN-CLASS ACTIVITY #2

A Deeper Dive

STIMULUS TO ACCOMPANY ACTIVITY – PART 4, UNRELATED STIMULUS

"Marching Band"

Image from: https://i.pinimg.com/736x/53/e7/4a/53e74adfe9d58c06d3e70177828b8fd9.jpg

Name: _____

BISOCIATION IN-CLASS ACTIVITY #2

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Part 2. Individual Brainstorming

You will be asked to use traditional brainstorming to think of as many ideas as possible. Keep track of your ideas here. If you run out of bullets, make a second column. Your instructor will eventually ask you to count up your ideas and write that number at the top of this sheet. You will also circle the idea you think is most worthwhile.

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Part 3. Stimulus List Created for Related Stimulus

You will be shown a related stimulus. Use this table to help you think through and create your stimulus list. Thinking about your stimulus, write as many things as you can in each column. When your instructor tells you to work with a partner, you will add to this list with things that they observed/thought of.

Physical Characteristics	Uses of this Product	Makes Me Think Of	Makes Me Feel	Other

Part 3. Bisociation Using Related Stimulus List

Once you have completed your stimulus list, you will be asked to use bisociation to think of as many ideas as possible. Keep track of them here. If you run out of bullets, make a second column. Your instructor will eventually ask you to work with a partner. At the end of this part of the activity, you will be asked to count up your ideas and write that number at the top of this sheet. You will also circle the idea you think is most worthwhile.

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Part 4. Stimulus List Created for Unrelated Stimulus

You will be shown an unrelated stimulus. Use this table to help you think through and create your stimulus list. Thinking about your stimulus, write as many things as you can in each column. When your instructor tells you to work with your team, you will add to this list with things that they observed/thought of.

Physical Characteristics	Uses of this Product	Makes Me Think Of	Makes Me Feel	Other

Part 4. Bisociation Using Related Stimulus List

Once you have completed your stimulus list, you will be asked to use bisociation to think of as many ideas as possible. Keep track of them here. If you run out of bullets, make a second column. Your instructor will eventually ask you to work with as a team and you should add all of the team ideas to this paper. At the end of this part of the activity, you will be asked to count up your ideas and write that number at the top of this sheet. You will also circle the idea you think is most worthwhile.

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WRAP-UP

1. When is using bisociation an appropriate method in engineering design?

2. As an engineer you will encounter a number of different types of projects. What will you consider in deciding which level of brainstorming/bisociation you might use?

3. Throughout this activity you did some work individually and then were able to discuss in pairs or teams. Discuss what you noticed about the ideas you included in your list when you created the list by yourself versus with others. How did the ideas your teammates contributed to the unrelated stimulus list compare to the ones that you had come up with individually? Which category (column on the table) seemed to expand the most when you had your team contribute?

4. For each level of bisociation, you reported out the idea that you felt was most valuable to be solved. Which level of brainstorming (traditional; related stimulus; or unrelated stimulus) resulted in the idea that you think was the most valuable of three? What do you think helped make this idea so valuable?

5. If in our next class you were told that you were tasked with coming up with a new product, service, or process that would make family car travel more enjoyable:

a.How likely would you be to (without receiving any additional instruction or practice) use bisociation?

1. Extremely unlikely
2. Unlikely
3. Neutral
4. Likely
5. Extremely likely

b. If you were told you had to use bisociation, how confident would you be that you could do so effectively (without receiving any additional instruction or practice) use bisociation?

1. Not at all confident
2. Not very confident
3. Somewhat confident
4. Confident
5. Extremely confident