Multi-Attribute Consensus Building Tool

NATIONAL CENTER ON EDUCATIONAL OUTCOMES

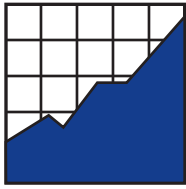# Multi-Attribute Consensus Building Tool

Vitaliy Shyyan • Laurene Christensen • Martha Thurlow •Sheryl Lazarus
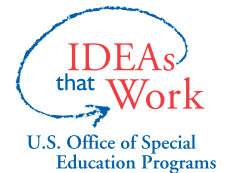
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Multi-Attribute Consensus Building Tool

Vitaliy Shyyan, Laurene Christensen, Martha Thurlow, and Sheryl Lazarus

The Multi-Attribute Consensus Building (MACB) method can be used in small or large group settings where there is a need to prioritize items based on participants' opinions. Although this method stimulates consensus building through the use of participatory decision making and weighting the importance of items, it is important to be aware that it is not always easy to reach consensus. Participants' perceptions of items can remain unchanged even though they have participated in a consensus-building process.

According to Lewis and Johnson (2000), MACB is appropriate when judgments are required as part of a decision-making process. They note that MACB "structures the decision process for an individual or group of stakeholders who rank several alternatives." MACB requires a comparison of two or more alternatives.

This MACB tool is comprised of the following sections: questions and answers about MACB, steps for using MACB with a small group (4-12 people); and steps for using MACB with a large group (more than 12 people).

What is MACB?

The MACB method is a quantitative approach for determining a group's opinion about the importance of each item (strategy, decision, recommendation, policy, priority, etc.) on a list (Vanderwood, & Erickson, 1994). This process enables a small or large group of participants to generate and discuss a set of items, weight the importance of each item, and debrief their weightings to either reach consensus or identify the sources of differences in participants' perceptions.

When can MACB be used?

The MACB method can be employed for the following two purposes: (a) to generate a list of items in small or large groups and have participants weight the importance of each item with the goal of building consensus, and (b) to have small or large groups weight the importance of a previously-generated list of items while aiming to achieve consensus.

How do I introduce MACB?

Two steps are involved in introducing MACB. These steps are followed regardless of the group size.

Step 1. Provide a brief overview of the MACB method and introduce the weighting scale to the participants. The weighting scale is shown in Figure 1. During the weighting process, the *100 rule* applies: at least one item should be assigned a weighting of 100, although more than one item can receive the 100 weighting. The importance of remaining items can be weighted in comparison to the most important ones (those rated as 100). Participants may need to be reminded about the *100 rule* before and during the weighting process. They should also be notified that, if they choose, they will be able to change their weighting at any point in the process.

Figure 1. MACB Weighting Scale

Very Unimportant 1-20	Unimportant 21-40	Neither Unimportant nor Important 41-60	Important 61-80	Very Important 81-100
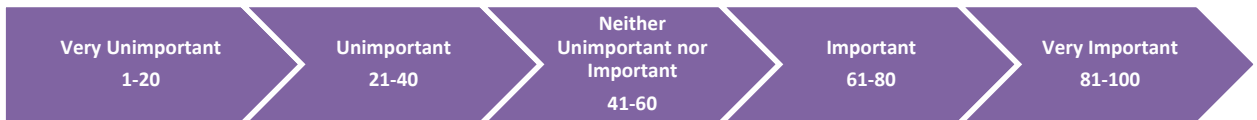
Step 2. Provide an example of the weighting process. An example is provided in Figure 2. This example lists possible strategies for stayi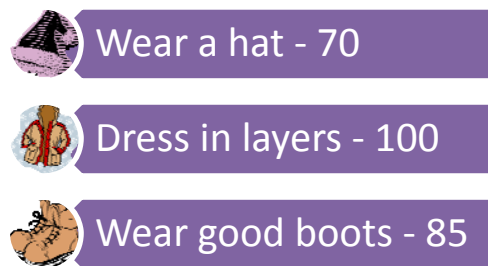ng warm in Minnesota. Point out that at least one strategy (dress in layers) received a 100 weighting. Remind your participants that from other people's perspectives, two strategies, or even all three could be weighted at 100.

Figure 2. MACB Weighting Example: Staying Warm in Minnesota

Wear a hat - 70

Dress in layers - 100

Wear good boots - 85

The remaining steps are implemented differently for small groups (4 -12 people) and large groups (more than 12 people). Depending upon group size, refer to the appropriate section.

How do I use MACB with a small group (4-12 people)?

Seven additional steps are used for the MACB process with small groups.

Step 3. Distribute MACB pages to each group participant. Each page should be coded with a unique number for each participant. For example, if there are 12 participants the numbers could be 1-12. A sample MACB page for a small group is shown in Table 1.

Table 1. Sample MACB Page for a Small Group

Number of Item	Definition/Description	Weighting
1		
2		
3		
4		

Step 4. Invite participants to generate a list of items that will be weighted in the MACB process. Often, it is helpful to have a starting list of items or provide some definitions and examples of items. Also, a complete, previously-prepared list can be used. In that case, all items can be listed on MACB pages. Be sure to leave additional lines blank in case participants choose to generate additional items.

Step 5. Write down the list of items on a board or project them onto a screen. Be sure to number each item. Ask participants to write down each item on their individual MACB pages unless this is a pre-generated list. It is important for everyone to keep the numbering order identical to your original list that is displayed to everyone.

Step 6. Ask participants to assign weightings to each item. Remind everyone about the *100 rule*—at least one item has to be given a weighting of 100. Also notify participants that they will be able to change their weightings at any point of the process.

Step 7. Once all items are weighted by every participant, ask each of them to report their weightings and enter each weighting in the MACB spreadsheet (https://nceo.umn.edu/docs/Tools/MACBspreadsheetBlank.xlsx) that is projected onto a screen or other light surface (e.g., a wall) to be visible to everyone. It is best to invite the first participant to report his or her weighting for the first item, then the second participant to report his or her weighting for the same item, and once everyone's weightings for the first item are entered, then proceed with the second item and collect the corresponding weightings for that item. This entry process should be carried out for all remaining items.

Step 8. When all weightings are entered in the MACB spreadsheet, their ranges, importance averages, and overall proportional weights (which add up to 1.00) are automatically calculated by the spreadsheet. An example is provided in Figure 3. Invite your participants to examine and discuss the results. Less attention should be paid to those items that generated smaller ranges in weightings, which indicate greater levels of consensus.

Figure 3. Sample MACB Spreadsheet

Strategies	Table	1	2	3	4	5	6	7	8	9	10	11	12	Avg Impt.	Prop. Wgt.
1 *Wear a hat*		85	75	70	100	57	80	61						75	0.29
	Range	57					TO					100			
2 *Dress in layers*		90	100	100	100	100	95	100						98	0.37
	Range	90					TO					100			
3 *Wear good boots*		100	90	85	100	76	100	85						91	0.34
	Range	76					TO					100			

It is desirable to allot more time to discussing the items that received mixed weightings. Ask participants about their reasons for weighting their items low or high. The example depicted in Figure 3 indicates that consensus has been reached for Strategy 2, but more discussion would be useful about Strategies 1 and 3 due to wider ranges in weightings and greater variability in perceptions of importance.

Be sure to mention that at any point anyone's weighting can be changed if the person believes that other participants' reasons for weighting the same item differently are compelling. At the same time, point out that there are no right or wrong answers. Indicate that absolute consensus on every item is impossible to reach, and everyone is entitled to keep their original weightings unaltered.

Step 9. Save the entries in the MACB spreadsheet and inform your participants about the ways the collected information will be synthesized and the audiences with which it will be shared. For example, you might indicate that the generated list will be distributed among the participants, or a report or research article will be written, etc.

How do I use MACB with a large group (more than 12 people)?

Eight additional steps are used for the MACB process with large groups.

Step 3. Divide participants into four to ten groups. A group of 14 people, for instance, could be randomly distributed into four smaller groups of three and four, five groups of two and three, six groups of two and three, or seven groups of two. For larger groups, a 1-12 count-off approach could be used, in which everyone sequentially is counted from 1 to 12, and subsequently 1s are grouped at one table, 2s are grouped at another table, and so on. It is also acceptable for participants to remain at the tables of their choosing if they are already distributed into groups with about the same numbers of people.

Step 4. Distribute MACB pages to each group. Each page should be coded with a unique number for each group. A sample MACB page for a large group is shown in Table 2.

Table 2. Sample MACB Page for a Large Group

Number of Item	Definition/Description	Weighting
1		
2		
3		
4		

Step 5. Invite each group to generate a list of items that will be weighted in the MACB process. Often, it is helpful to have a starting list of items or provide some definitions and examples of items. Also, a complete, previously prepared list can be used. In that case, all items can be listed on MACB pages. Be sure to leave additional lines blank in case participants choose to generate additional items.

Step 6. Write down the list of items on a board or project them onto a screen. Be sure to number each item. Ask one person in each group to write down each item on their group's MACB page unless this is a pre-generated list. It is important for everyone to keep the numbering order identical to your original list that is displayed to everyone.

Step 7. Ask each group to discuss the list at his or her table and assign weightings to each item. Remind everyone about the *100 rule*—at least one item has to be given a weighting of 100. Also notify participants that they will be able to change their weightings at any point of the process.

Step 8. Once all items are weighted by every group, ask representatives of each of them to report their weightings and enter each weighting in the MACB spreadsheet (https://nceo.umn.edu/docs/Tools/MACBspreadsheetBlank.xlsx) that is projected onto a screen or other light surface (e.g., a wall) to be visible to everyone. It is best to invite the Group 1 representative to report his or her group's weighting for the first item, then the Group 2 representative to report his or her group's weighting for the same item, and once every group's weightings for the first item are entered, you can proceed with the second item and collect the corresponding weightings. This entry process should be carried out for all remaining items.

Step 9. When all weightings are entered in the MACB spreadsheet, their ranges, importance averages, and overall proportional weights (which add up to 1.00) are automatically calculated by the spreadsheet. An example is provided in Figure 3. Invite your groups to examine and discuss the results. Less attention should be paid to those items that generated smaller ranges in weightings, which indicate greater levels of consensus.

It is desirable to allot more time to discussing the items that received mixed weightings. Ask groups about their reasons for weighting their items low or high. The example depicted in Figure 3 indicates that consensus has been reached for Strategy 2, but more discussion would be useful

about Strategies 1 and 3 due to wider ranges in weightings and greater variability in perceptions of importance.

Be sure to mention that at any point any group's weighting can be changed if it believes that other groups' reasons for weighting the same item differently are compelling. At the same time, point out that there are no right or wrong answers. Indicate that absolute consensus on every item is impossible to reach, and everyone is entitled to keep their original weightings unaltered.

Step 10. Save the entries in the MACB spreadsheet and inform your groups about the ways the collected information will be synthesized and the audiences with which it will be shared. For example, you might indicate that the generated list will be distributed among the participants, or a report or research article will be written, etc.

References

Lewis, D. R., & Johnson, D. R. (2000). *Participatory evaluation for special education and rehabilitation.* Washington, DC: AAMR.

Vanderwood, M. L., & Erickson, R. (1994). Consensus building. *Special Services in the Schools*, *9*(2), 99-113.

Other Resources

Albus, D., Thurlow, M., Shyyan, V., & Barrera, M., (2004). *Educator perceptions of instructional strategies for standards-based education of English language learners with disabilities.* (ELLs with Disabilities Report 7). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes. Available online: http://www.cehd.umn.edu/nceo/OnlinePubs/ELLsDisReport7.html

Barrera, M., Shyyan, V., Liu, K., & Thurlow, M. (2008). *Reading, mathematics, and science instructional strategies for English language learners with disabilities: Insights from educators nationwide.* Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes. Available online: http://www.cehd.umn.edu/NCEO/OnlinePubs/ELLsDis19/ELLsDisRpt19.pdf

Lewis, D. R., Johnson, D. R., Erickson, R., & Bruininks, R. H. (1994). Multiattribute evaluation of program alternatives in special education. *Journal of Disability Policy Studies, 5*(1), 77-112.

Shyyan, V., Thurlow, M., & Liu, K. (2005). *Student perceptions of instructional strategies: Voices of English language learners with disabilities* (ELLs with Disabilities Report 11). Minneapolis, MN: University of Minnesota, National Center on Educational Outcomes. Available online: http://www.cehd.umn.edu/NCEO/OnlinePubs/ELLsDisReport11.html

Shyyan, V., Thurlow, M., & Liu, K. (2008). Instructional strategies for improving achievement in reading, mathematics, and science for English language learners with disabilities. *Assessment for Effective Intervention, 33*(3), pp. 145-155.

Vanderwood, M. L., & Erickson, R. (1994). Consensus building. In J. E. Ysseldyke, & M. L. Thurlow. (Eds.), *Educational outcomes for students with disabilities*. New York: The Haworth Press, Inc.