

Which Words Do Not Belong?¹

The test material consists of a sheet of paper containing a series of 5-word groups. In each group, 3 of the 5 words share some relation. The other 2, not sharing this relation, must be crossed out. The test subjects must sort the words, associate them, and eliminate the ones that do not belong.

There are two forms of the original test, as well as a parallel form, leaving to the clinician the selection of the task that best fits the test situation (age, developmental level, knowledge base of the subject, for example). Only Form A is used here.

The test is composed of 40 groups of words divided into 4 lists. The first list is substances, the second of plants, the third of adjectives, and the fourth of abstract words. The words in the first two lists have a concrete character. The last 20 items progress steadily toward a higher level of abstraction. It is interesting to compare the performances obtained from the two parts of the test, i.e., the first two lists versus the second two lists, differing in level of abstraction, which could differ according to cultural background and scholastic attainment.

The examiner may give the following instructions. He/she must be careful, in presenting the task, to solve the first example and then to have the subject solve the other two examples. Examiners should recall also that the important aspect of giving instructions is to be sure that the examinees understand the nature of the task and its requirements; therefore, it is not important to use these precise words, but rather to give the instructions in such a way as to assure the examinees' understanding.

*I will show you a group of 5 words, three of which are alike in a certain way, that is, are related to each other. They go together. Your job is to cross out the ones that do not belong in the group. Let's read the first group: **summer, fall, winter** go together; they are seasons of the year, whereas **Monday and Tuesday**, which are days of the week, do not belong in that group. Therefore, these two words, **Monday and Tuesday, should be crossed out.** Now you do the next one (..and the next).*

Now, when I give you the signal to start, go to work on the word groups in List I. Cross out the two words in each group that do not belong to the group. Any questions? If any group looks too difficult, just go on to the next one.

After the examinees have finished with List I:

¹ *Élimination de deux données sur cinq*, by André Rey, translated and adapted for dynamic assessment by H. Carl Haywood, with permission of Mme. Teresinha Rey. This material is a supplement to H. Carl Haywood and Carol S. Lidz (2007), *Dynamic assessment in practice: Clinical and educational applications*. New York: Cambridge University Press. Copyright© 2006, H. Carl Haywood. Nothing in this notice should be construed as limiting in any way the rights of Mme. Rey to the original test, *Élimination de deux données sur cinq*, by André Rey. Permission is automatically granted for copying for professional and instructional use. Copying for sale is prohibited.

Now look carefully at the word groups in List II. On my signal, start to work on those by crossing out the words that do not belong in each group.

Proceed in the same way for the last two lists.

In Rey's original test, a timed administration was used: two minutes were allowed for each list of 10 items. It is, of course, possible to do that, especially if one is interested primarily in efficiency. That might be appropriate, for example, with high-functioning adolescents and adults. For examinees with special needs, such as those with mental retardation, neurological impairment, cerebral palsy, or any other condition that might slow down performance, timing the test will lead to an artificially depressed score; i.e., it will cause examiners to misinterpret their scores as representing cognitive ineffectiveness when the culprit might be lack of motor or processing speed. In such cases, allow plenty of time, realizing that the score will more accurately reflect cognitive effectiveness but will not reflect cognitive efficiency.

In group administration, sometimes a fast subject will start the second or third paragraph before the signal is given. In order to prevent this anticipatory behavior, the lists can be presented one at a time, either on separate sheets or on folded sheets.

Scoring

Give 1 point for each item that is completely correct.
The maximum possible score is thus 40 points.

Following are the lists of words, as well as the list of words to be crossed out.

Examples:

- (a) summer, Monday, fall, winter, Tuesday
- (b) door, match, stove, inkwell, candle
- (c) belt, dial, spring, suitcase, coil

Your name _____ Date _____

In each item, mark a large X through the two words that do not belong.

I.

1. water cloth oil alcohol box
2. ruby flint sapphire diamond chalk
3. wood old gas tall metal
4. nicotine caffeine sugar opium starch
5. granite iron aluminum marble copper
6. gold zinc silver platinum tin
7. cement straw plaster wool lime
8. glass charcoal gasoline coal clay
9. ivory leather horn wood lead
10. nickel iodine mercury chlorine carbon

Your name _____ Date _____

In each item, mark a large X through the two words that do not belong.

II.

- 1. tree mountain grass rock flower**
- 2. walnut peach apricot almond pecan**
- 3. iris gladiolus cherry apple crocus**
- 4. oak palm birch coconut date**
- 5. elm wheat oats barley maple**
- 6. lettuce linen hemp kale cotton**
- 7. rose carnation mushroom lichen moss**
- 8. tomato carrot bean beet turnip**
- 9. water lily sage mint lavender reed**
- 10. pine willow poplar birch fir**

Your name _____ Date _____

In each item, mark a large X through the two words that do not belong.

III.

1. pale happy thin joyful merry
2. arid barren annual perennial uncultivated
3. abundant precise orderly careful numerous
4. eat long old run sad
5. wide pink blue long green
6. brisk lazy careless swift prompt
7. calm noisy resonant peaceful deafening
8. ardent modest enthusiastic warm calm
9. mild sun handsome easy car
10. willing away soiled shiny dry

Your name _____ Date _____

In each item, mark a large X through the two words that do not belong.

IV.

- 1. speed economy acceleration budget finances**
- 2. humanity tulip hat senility history**
- 3. violence tyranny expenses despotism taxes**
- 4. habit daring risk addiction routine**
- 5. jazz hymn waltz carol psalm**
- 6. liberty fate destiny heroism lot**
- 7. music medicine painting chemistry poetry**
- 8. sonata novel poem symphony narrative**
- 9. grief decadence chagrin boredom deterioration**
- 10. geology ethnology sociology geography anthropology**

Words that do not belong:

I.

1. box, cloth
2. flint, chalk
3. old, tall
4. sugar, starch
5. granite, marble
6. zinc, tin
7. straw, wool
8. glass, clay
9. wood, lead
10. nickel, mercury

II.

1. mountain, rock
2. peach, apricot
3. cherry, apple
4. oak, birch
5. elm, maple
6. lettuce, kale
7. rose, carnation
8. tomato, bean
9. water lily, reed
10. pine, fir

III.

1. pale, thin
2. annual, perennial
3. abundant, numerous
4. eat, run
5. wide, long
6. lazy, nonchalant
7. calm, peaceful
8. poor, calm
9. sun, car (auto)
10. willing, now

IV.

1. speed, acceleration
2. tulip, hat
3. expenses, taxes
4. rashes, risk
5. jazz, waltz
6. liberty, heroism
7. medicine, chemistry
8. sonata, symphony
9. decadence, decline
10. geology, geography

Using This Test in Dynamic Assessment

For dynamic assessment it is useful to have two parallel forms of the tests rather than four forms that are qualitatively different. It is possible to make two parallel forms, using the same 40 items, by sorting these items into two rather than four forms of the test. The following is such a combination, with a pretest and a posttest form, to be given in the static mode before and after a mediation phase.

Combined Form 1, Pretest, for Dynamic Assessment

- 1. water cloth oil alcohol box**
- 2. walnut peach apricot almond pecan**
- 3. pale happy thin joyful merry**
- 4. humanity tulip hat senility history**
- 5. wood old gas tall metal**
- 6. oak palm birch coconut date**
- 7. abundant precise orderly careful numerous**
- 8. habit daring risk addiction routine**
- 9. granite iron aluminum marble copper**
- 10. lettuce linen hemp kale cotton**
- 11. wide pink blue long green**
- 12. liberty fate destiny heroism lot**
- 13. cement straw plaster wool lime**
- 14. tomato carrot bean beet turnip**
- 15. calm noisy resonant peaceful deafening**
- 16. sonata novel poem symphony narrative**
- 17. ivory leather horn wood lead**
- 18. pine willow poplar birch fir**
- 19. mild sun handsome easy car**
- 20. geology ethnology sociology geography anthropology**

Combined Form 2, Posttest, for Dynamic Assessment

1. ruby flint sapphire diamond chalk
2. tree mountain grass rock flower
3. arid barren annual perennial uncultivated
4. speed economy acceleration budget finances
5. nicotine caffeine sugar opium starch
6. iris gladiolus cherry apple crocus
7. eat long old run sad
8. violence tyranny expenses despotism taxes
9. gold zinc silver platinum tin
10. elm wheat oats barley maple
11. brisk lazy careless swift prompt
12. jazz hymn waltz carol psalm
13. glass charcoal gasoline coal clay
14. music medicine painting chemistry poetry
15. rose carnation mushroom lichen moss
16. ardent modest enthusiastic warm calm
17. grief decadence chagrin boredom deterioration
18. nickel iodine mercury chlorine carbon
19. water lily sage mint lavender reed
20. willing away soiled shiny dry

This is a fairly easy task, but it can be quite useful, especially given dynamically (with interposed mediation) with cognitively impaired persons such as those with intellectual disabilities, brain injury, and attention deficit disorders. Impulsivity leads to low scores on this task. Other cognitive deficiencies than can show up here include:

- difficulty managing multiple sources of information at once
- verbal abstracting, classification, and class inclusion difficulty
- lack of or inadequate spontaneous comparative behavior
- poor hypothetical thinking, hypothesis testing
- lack of differentiation of inclusion versus exclusion

A major non-process obstacle to performance on this task is impoverished vocabulary. The test presents an opportunity to discover that, and to find out how much difference in performance is made when that obstacle is removed. A good way to do that is to give a form of the test in a static mode, then to go through that same form, this time asking the subject(s) to define the words. When they appear not to know the meanings of particular words, the examiner defines the words for them and works to be sure that they understand the meaning, without, of course, revealing the answers to the items (which two do not belong?). It is essential to avoid doing the categorizing for the subjects while defining the words. The point is to remove poor vocabulary as an obstacle to good performance. Compare scores on the two administrations of that form of the test. This strategy is easily adapted to group administration, provided the subjects can read.

Administer the test initially without any help or mediation of any sort except to explain the task and assure yourself that all examinees understand what is required of them. (Not understanding what the examiner wants them to do accounts for many, many wrong answers and low scores by a large number of examinees, especially those who are not “test wise” or whose cultural experience is remote from that of the test maker.) Follow that initial administration with a period of mediation, concentrating, in individual assessment, on the apparent difficulties that the subject reveals, and in group assessment on the major potential cognitive, motivational, and non-process variables that can constitute obstacles to good performance, such as the small list given in the first paragraph of this discussion (*supra*). After a mediation period of about 10-20 minutes (depending on the functional levels of the subjects and on the feedback the examiner gets from them during mediation), the test is given again in a static mode, i.e., without help, and the pre and post-mediation scores are compared to determine to what extent each subject was able to benefit from the mediation.

Some Group Mediation

1. Make certain that each subject understands the nature of the task and what is required.

2. Discuss (mostly by eliciting from them) metacognitive strategies for approaching this task, such as being sure to take in all the information given in an item asking oneself the meanings of the words searching for similarities forming tentatively held classes testing class inclusion (does this item belong in that class?) establishing the task-specific rules; e.g., the task is to eliminate two words, one has to ask “what does not belong” rather than simply what is the category inhibiting impulsive responding, verifying one’s answers.
3. Deal with motivational problems in a general way, especially in group administration; e.g., by speaking of one’s confidence in the abilities of the subjects, examiners can at least partially remove the obstacle of poor self concept as problem solvers. By commenting on their good performance during mediation, and attributing that to use of specific metacognitive strategies, one can “mediate the feeling of competence” and overcome some reluctance to go forward.
4. Assess, informally, the role of poor vocabulary, and overcome that obstacle as suggested earlier in this discussion (see previous page).
5. Ask the subjects what difficulty they might have encountered on initial administration, and how they think that could be overcome. Take their suggestions seriously!

Haywood and Miller² used just two of the lists and pre- and posttests for group administration with adults who had suffered traumatic brain lesions. The mediation that was interposed between the two lists led to higher scores. There were indications that the mediation was more successful with adults in a “mental retardation/developmental disabilities” group than with those in the traumatic brain injuries group.

² Haywood, H. C. & Miller, M. B. (2005, July). Group dynamic assessment with adults with traumatic brain injuries: Massed versus distributed mediation. Paper given at the 10th international conference, International Association for Cognitive Education and Psychology, Durham, UK.