

# ENEMY ITEM

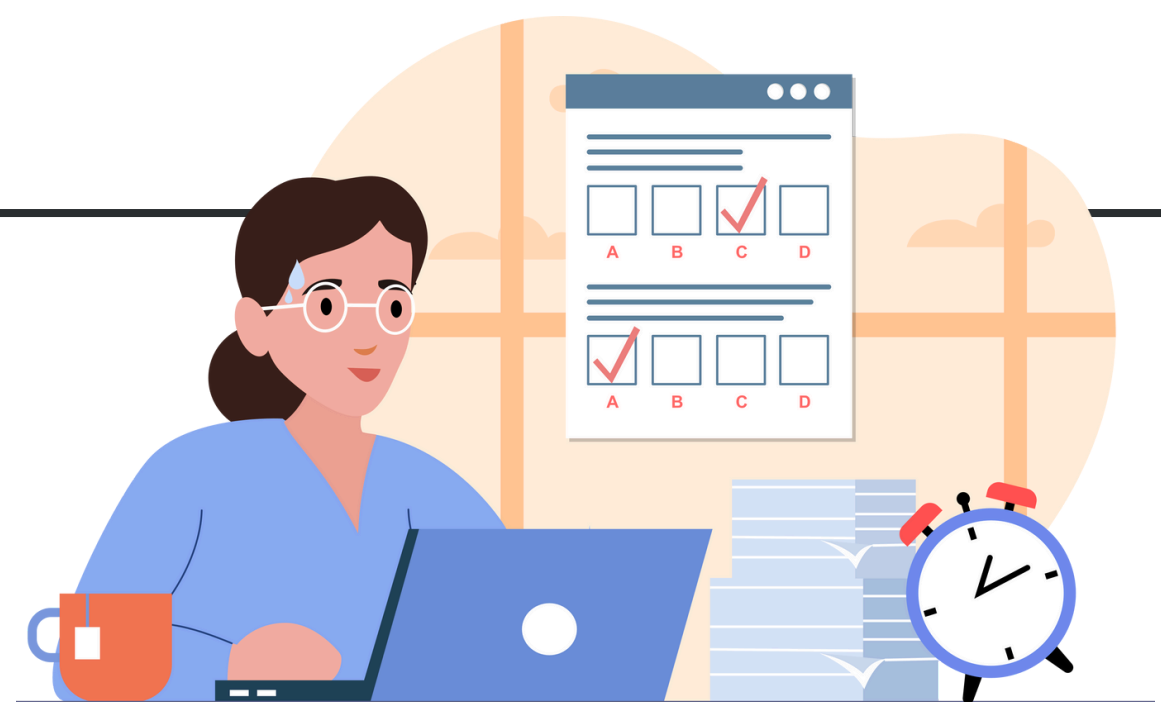
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## What is enemy item?

Enemy item is a psychometric term that refers to two test questions (items) which should not be on the same test form seen by an examinee



## Why two items are considered enemy item?

1. Too similar: the text of the two items is almost the same
2. One item gives away the answer to the other item
3. The items are on the same topic/answer, even if the text is different.

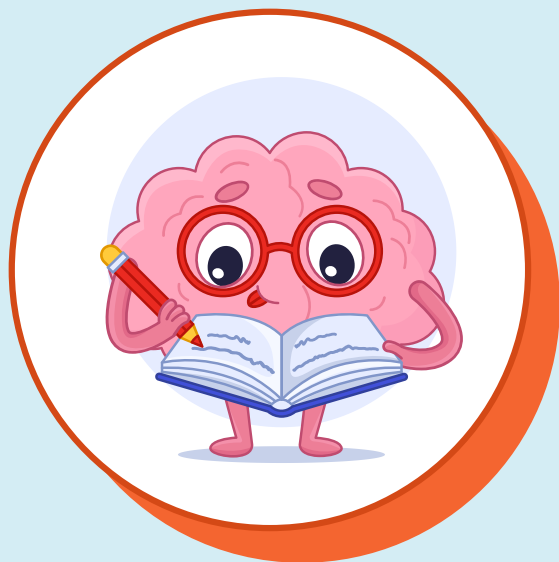
## Why are enemy items a problem?

1. Affect content validity: Enemy items are testing duplicate area of knowledge or competency, thereby reducing the coverage of exam content.
2. Reduce face validity: Receiving similar items may lead examinee to be distracted and question the credibility of the examination.
3. Introduce inter-item dependency: The examinee has an increased probability of answering either correctly or incorrectly to enemy sets on the same test.
4. Undermines measurement precision: Using responses to enemy items for determining the examinee's ability will bias the resulting score and negatively impact the degree to which scores might be considered valid.

TEST



# Common Categories of Enemy Items



## ●●● Duplicate Items

01

All item components are virtually identical. These items are true duplicates excepts for punctuation, notation of other trivial differences.



## ●●● Duplicate Stems

02

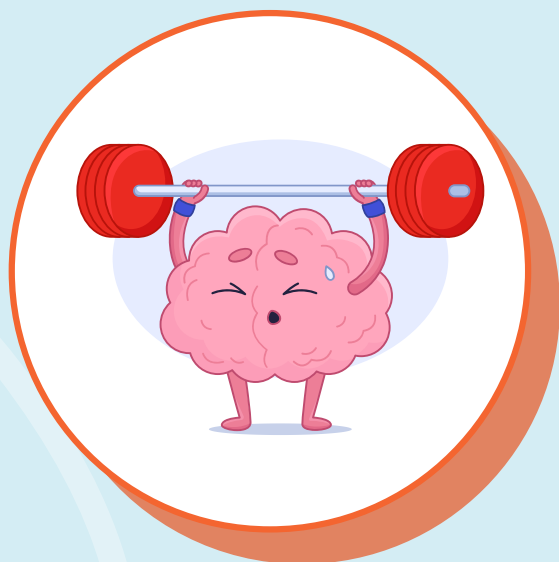
Items have identical stems and different options. This may occur when items are reproduced from item bank and not “from scratch”.



## ●●● Duplicate Options

03

Items have different stems and nearly identical options. This may occur when a response option constructed another different stems.



## ●●● Duplicate Stimuli

04

Items have identical graphics, exhibits, sounds or reading passages. This may occur to make the best use of stimuli elements.



## ●●● Overlapping Content

05

Items have different phrasing of stem and/or options, but the specific concept being tested is equivalent. It is more difficult to detect and may not be as risky as other categories of item enemies.



# Detecting Enemy Items

Enemy items are typically identified through two (2) common methods:

1

## Manual

Humans review items and intentionally mark two as enemies. For example, a reviewer might identify two items covering the same concept.

2

## Automated

Machine learning algorithms, such as those using natural language processing (NLP), evaluate item similarity. However, this approach may miss situations where items have different text but the same topic.

## Summary

In summary, it is critical to identify enemy items and ensure that they don't get used together. Identifying and removing enemy items from an examination is crucial for maintaining the integrity and fairness of the assessment process.



## References

1. Woo, A., & Gorham, J. (2010). Understanding the Impact of Enemy Items on Test Validity and Measurement Precision. CLEAR Exam Review, 21(1), 15-17.
2. Thompson, N. What are enemy items?. Retrieved from <https://assess.com/enemy-items/>