

Training 2.0: Embracing Emerging Tech to Educate Tomorrow's Officers
Theresan Military Academy
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Integration of Generative Artificial Intelligence in Military Training

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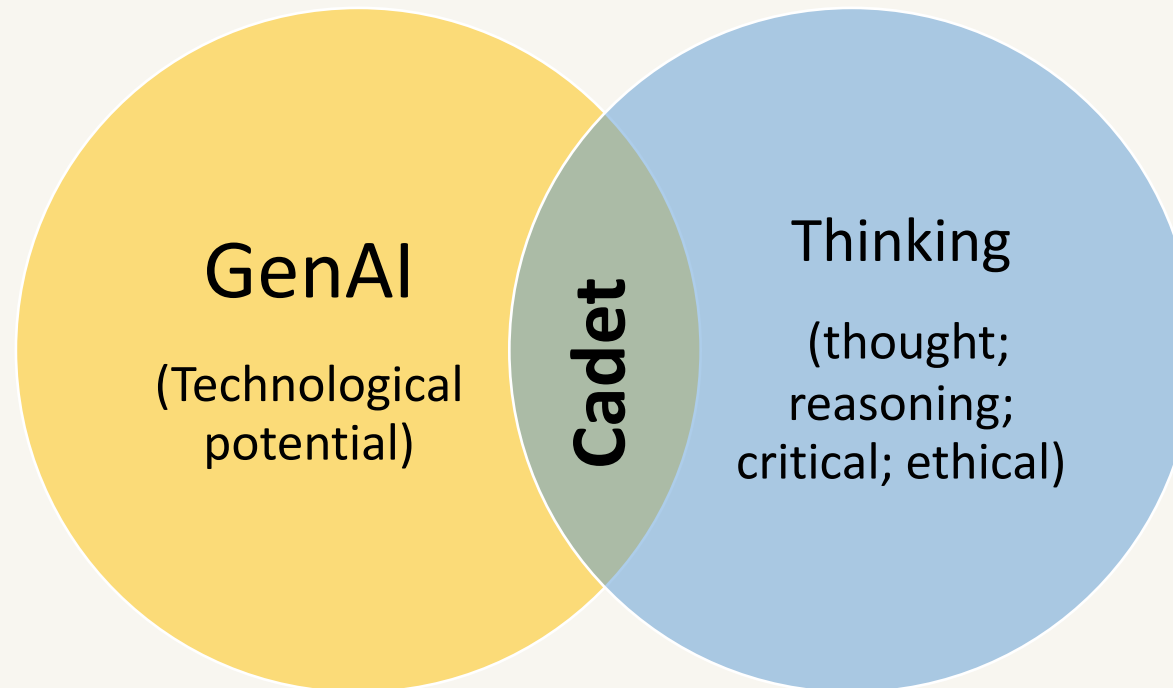
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Problem

Generative Artificial Intelligence (**GenAI**) is transforming military higher education



Challenge — Integrating GenAI into training without undermining intellectual autonomy, which underpins command and decision-making.

Research Aim and Research Question



Research Aim

Analyses first-year Cadets' use of GenAI tools such as ChatGPT at the Portuguese Military Academy, in a classroom context and as a complement to pedagogical methods

Research Question

What are first-year Cadets' perceptions at the Portuguese Military Academy of generative artificial intelligence as a classroom tool and complement to learning methods?

Theoretical Framework

TOTAL REJECTION

Action: Prohibition

Impacts: denial potential benefits; refuse to explore tools that could provide cognitive advantages; limit data literacy; discourage students rather than guide them

INTERMEDIATE APPROACH

Action: Used to complement human thought

Impacts: responsible use; supervision; contextual; practice-oriented research; supported by strategic educational policies

UNCRITICAL ACCEPTANCE

Action: Used as a cognitive substitute

Impacts: hinder the development of critical and creative thinking skills

Methodology

Type of Study

Exploratory-descriptive

Context

Classroom

Branch

Portuguese Army

Portuguese Gendarmerie:

National Republican Guard

Sample

103 first-year Cadets

5 distinct study cycles at the
Military Academy:

- Security
- Administration
- Military Engineering
- Military Mechanical Engineering
- Military Electrical Engineering

Methodology

Questionnaire

Google Forms

7 points Likert Scale

QR Code

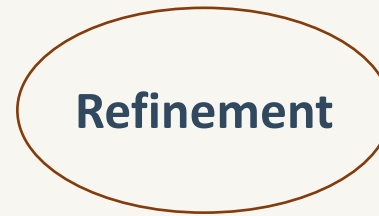
Programmatic content

Generation of ideas

Thinking

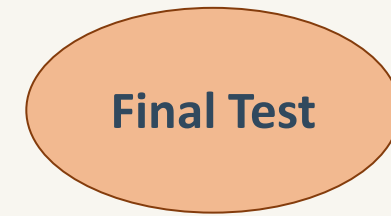


Questionnaire validation
January 13, 2026
43 Cadets
(representing 41.75% of the total sample)



from 20 to 12 questions

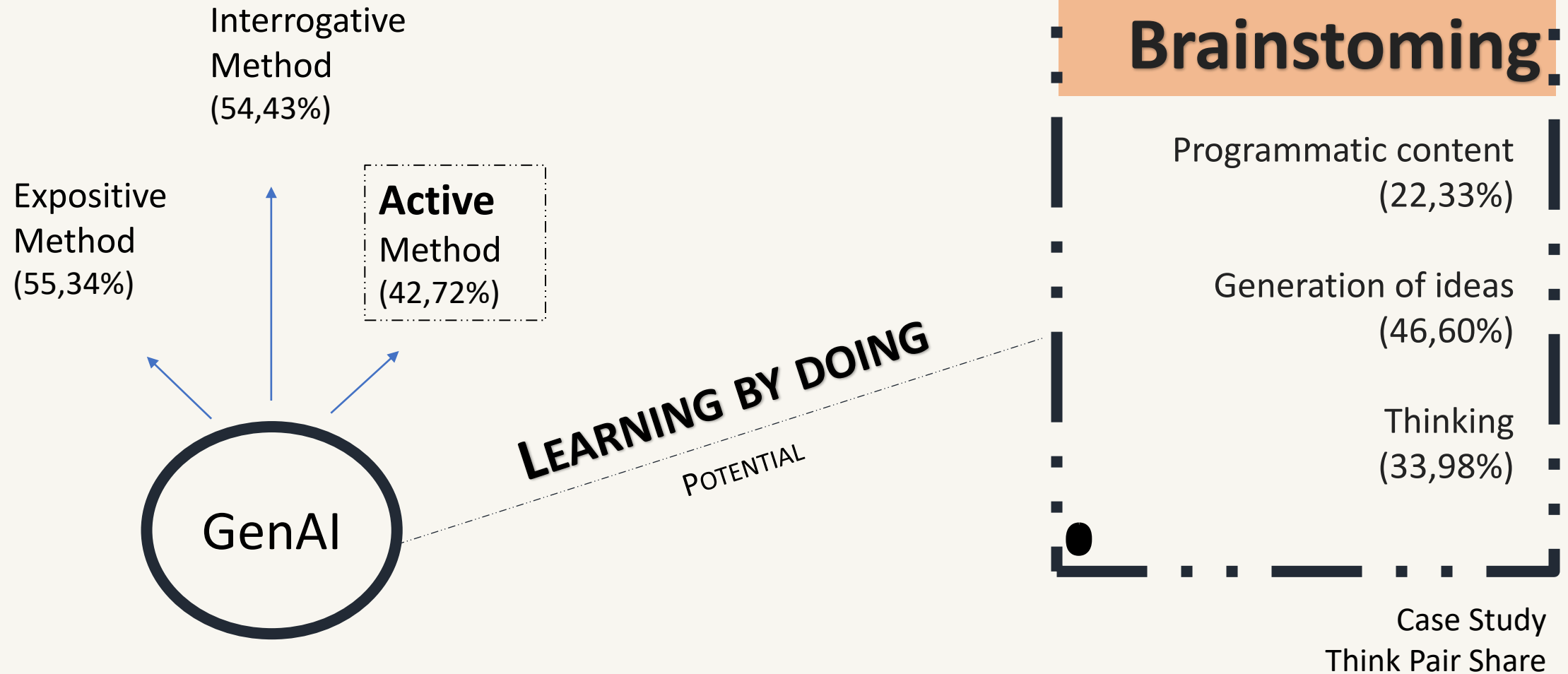
- Clarity, objectivity, and reduced completion time
- Adapt the wording to the target audience



Final questionnaire
January 15, 2026
103 Cadets
Individually and simultaneously

Voluntary Nature of Participation; Anonymity, Confidentiality; Informed Consent; Data analyzed in aggregate form and used solely for academic purposes;

Results and discussion: Pedagogical Methods



Results and discussion: dominant GenAI

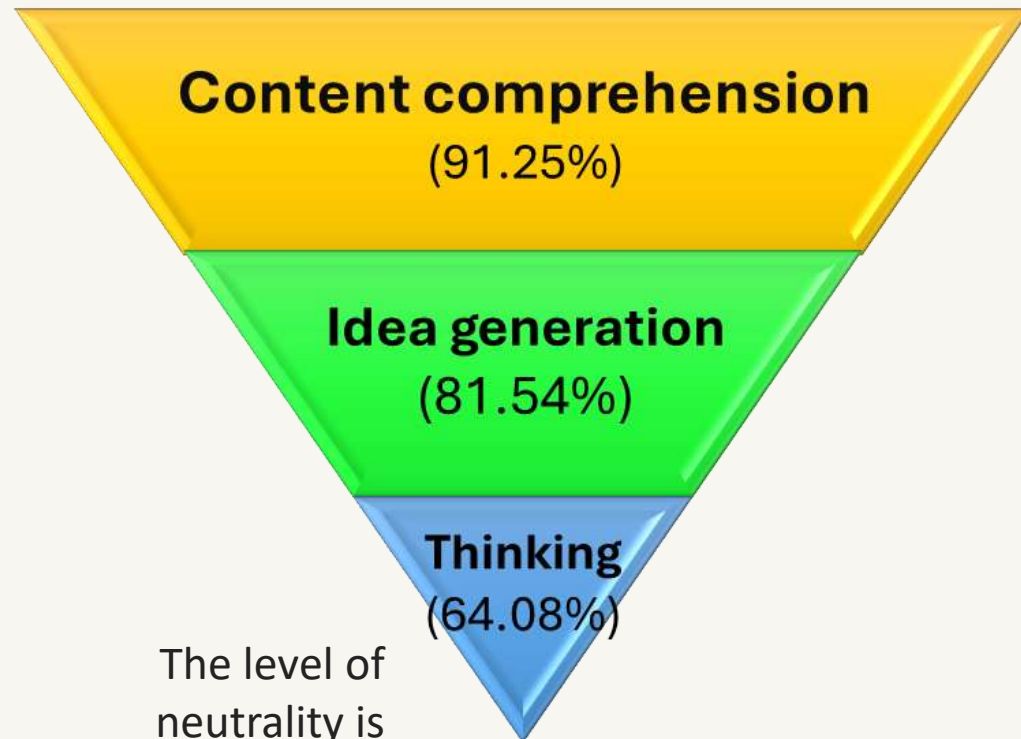
67,96% ChatGPT

12,62% Bing/Microsoft Copilot

19,42% Others (Perplexity; Gemini;
NotebookLM ...)

- Predominance position
- Baseline tool for GenAI integration into the expository, interrogative, and active methods
- Starting point from which Cadets build their perceptions of learning.

Results and discussion: Perceived usefulness of GenAI



The level of neutrality is 15.53%, and disagreement is 20.38%

Higher --- Simple Cognitive Tasks

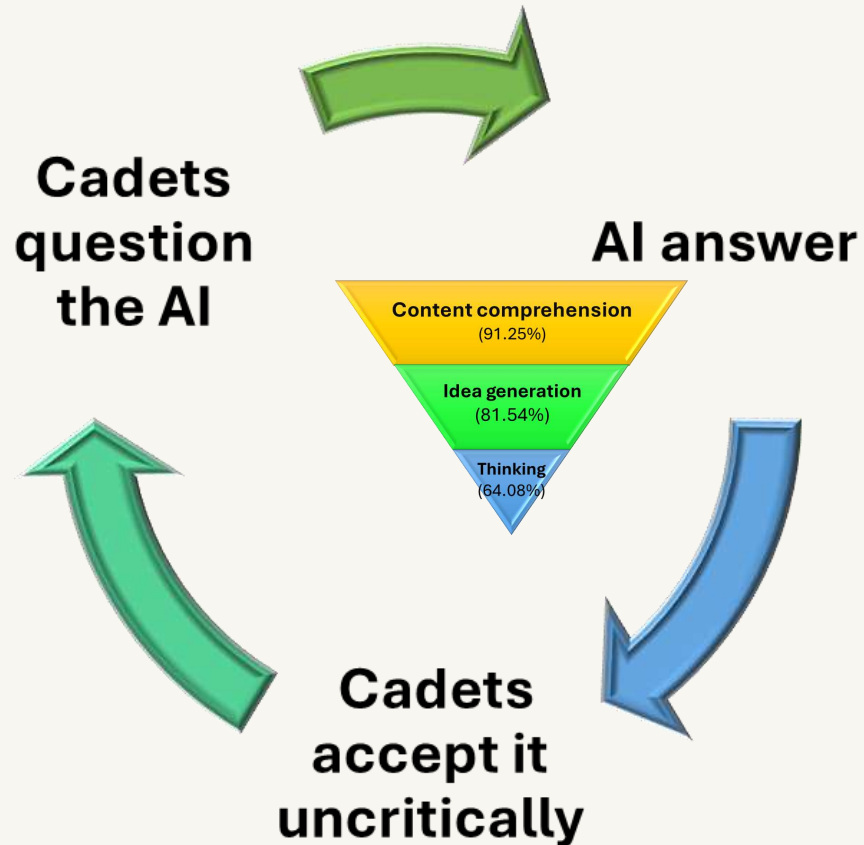
Perceived usefulness of GenAI decreases as task complexity increases, i.e. the greater the intellectual demand and autonomy required.

Lower --- Demanding Cognitive Tasks

Results and discussion: Perceived usefulness of GenAI

At an initial stage, GenAI is seen as a facilitator of learning, particularly in the comprehension and generation of ideas.

Results and discussion: Risk to independent reasoning



High levels of agreement regarding the usefulness of AI highlight the risk of uncritical acceptance.

- Interference with **AUTONOMOUS** and **INDEPENDENT REASONING**
- Erosion of core skills. In a military context, this may affect **COMMAND ACTION** and **DECISION-MAKING**

Some Cadets recognise this risk: 27.18% see AI as an obstacle when the topic has not been mastered

Conclusions

Research Question

What are first-year Cadets' perceptions at the Portuguese Military Academy of generative artificial intelligence as a classroom tool and complement to learning methods?

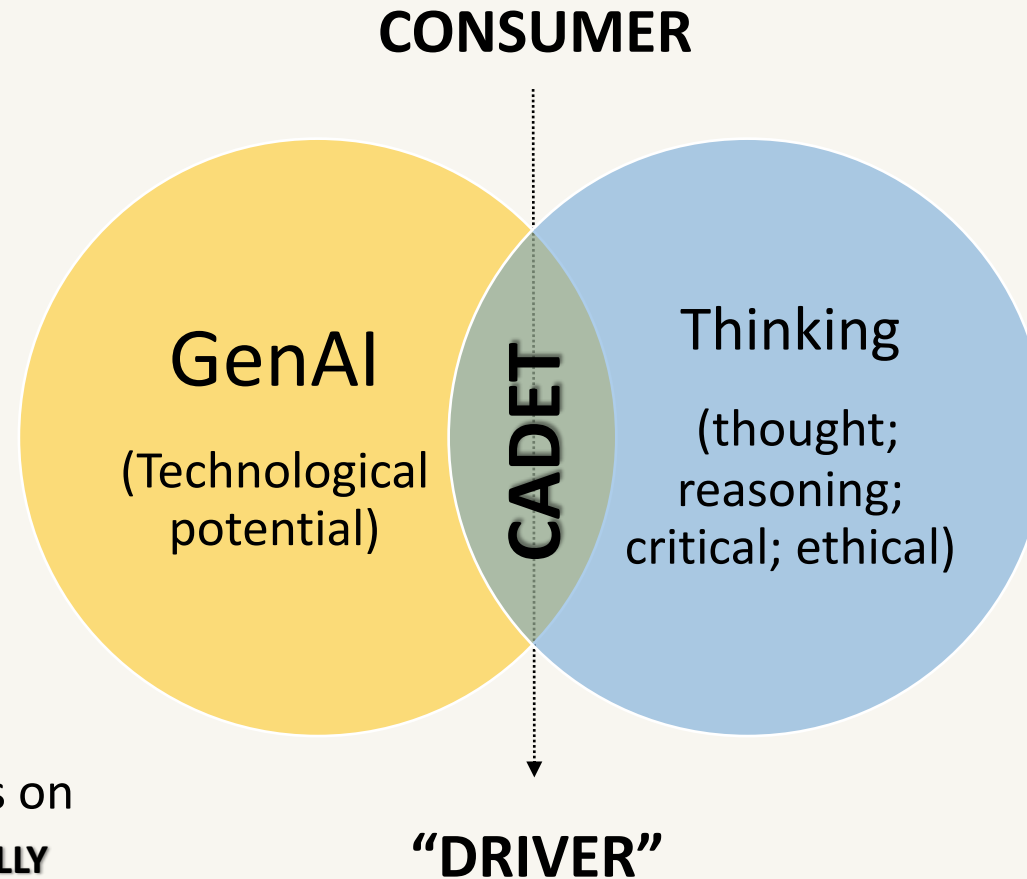
Answer

In the classroom, most cadets perceive that generative artificial intelligence, especially CHATGPT, facilitates the monitoring of programmatic content, the generation of ideas and thinking, and complements pedagogical methods, particularly ACTIVE LEARNING and BRAINSTORMING techniques

BUT ... they are aware of the risks of technological dependency as the complexity of tasks increases

Conclusions

GenAI should **facilitate** the **process of knowledge transfer**, not replace it.



The value of AI depends on the way it is **PEDAGOGICALLY INTEGRATED**.

Through the intermediate approach, the Military Academy ensures that it trains officers with the **INTELLECTUAL AUTONOMY** needed to command and make complex decisions.

Conclusions

Rethinking Teaching Practices

Task-centred / Problem-solving

- Create tasks that promote problem-solving and require context and personal reflection / intellectual autonomy

Research and BRAINSTORMING (Think-Pair-Share or Case Study)

- Integrate GenAI and encourage the sharing of results between Cadets

Face-to-face sharing of reasoning

- Require an in-person demonstration of reasoning in task/problem solving

Limitations and recommendations

1

Exploratory-descriptive study
focused on Cadets' perceptions

2

Need to administer
questionnaires to instructors in
order to correlate Cadets'
perceptions with observed
performance

3

Carry out more in-depth
statistical correlation studies

Future directions

- Critical** →
 - Empower Cadet students to validate outputs and reject passive acceptance
 - Shift the perspective from “consumer” to “driver”
- Ethics** →
 - Promote seminars on the ethical boundaries of GenAI use
- Funcional** →
 - Teach what GenAI is and how it works.
 - Prepare professors to guide the pedagogical use of GenAI

Thank you