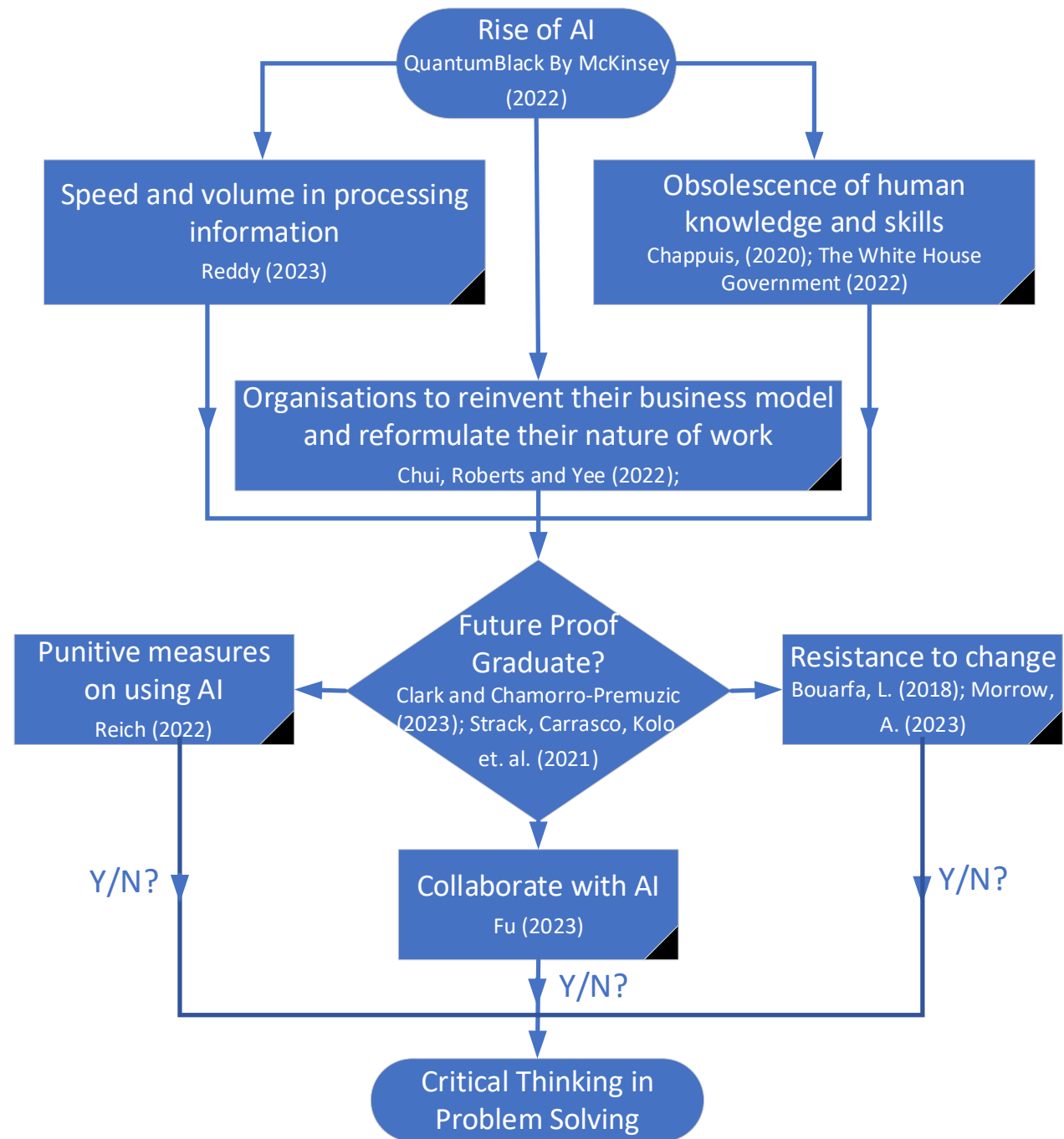
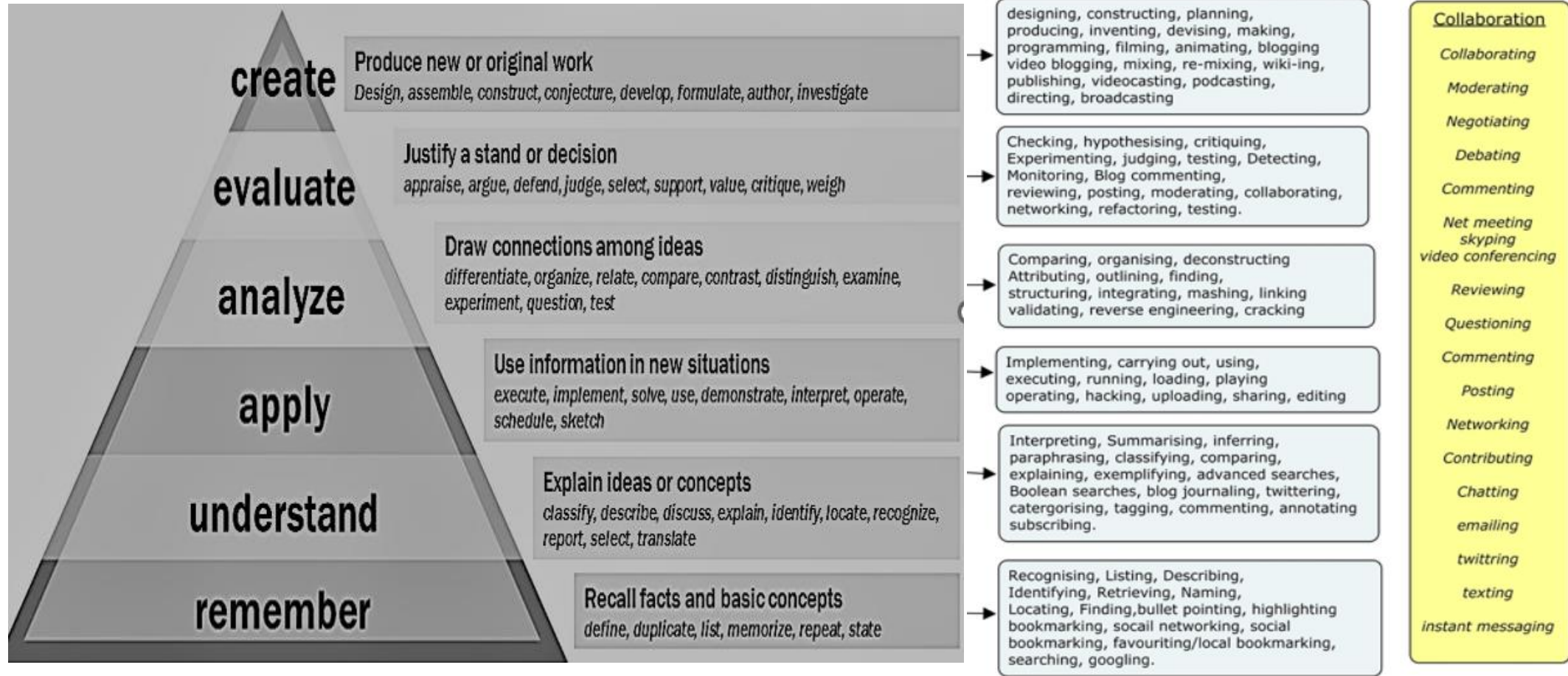


Develop Future-proof Graduates in the AI Era

Dr Colin Fu
(CLBS)



The Era of AI



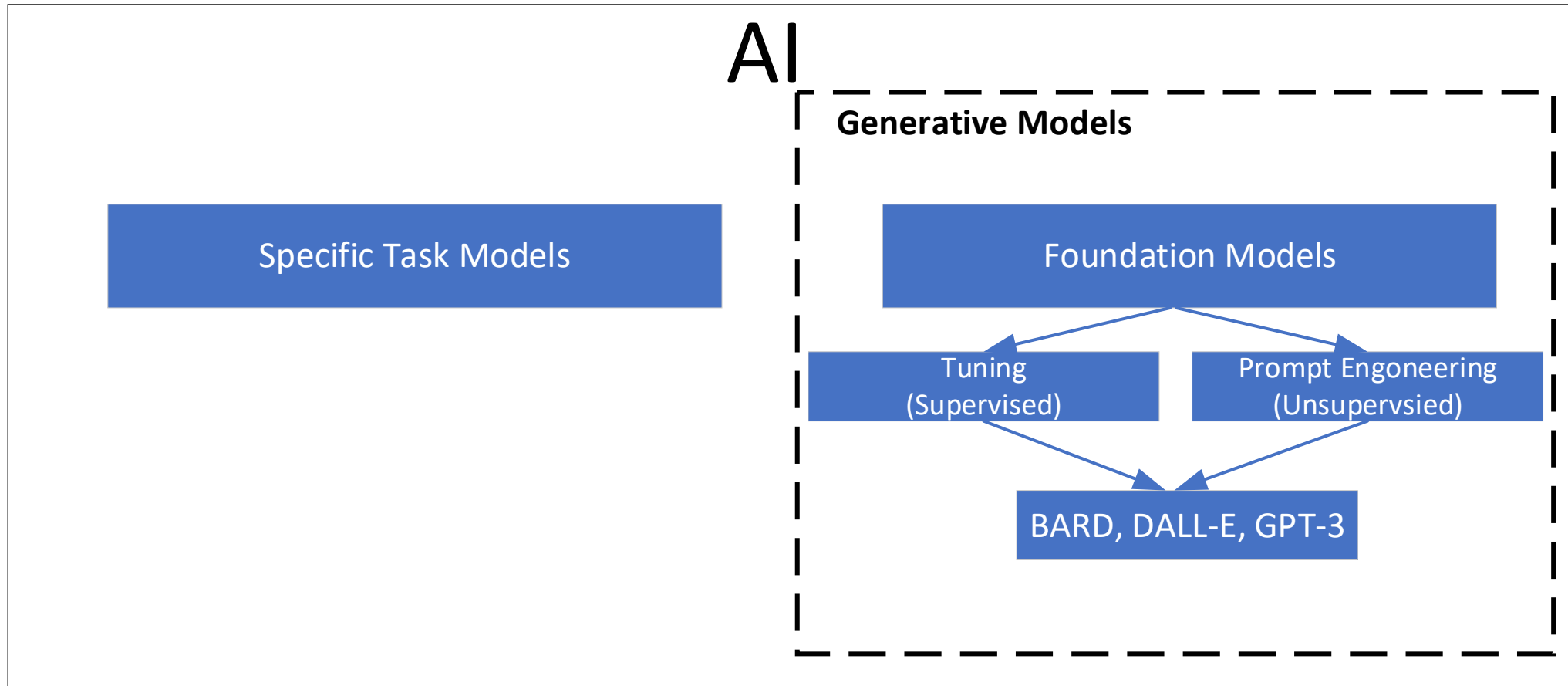
Revised Bloom's Taxonomy(Anderson, et. al., 2001, Krathwohl, 2002):

Digital Bloom's Taxonomy(Church, 2008)

- *Bloom's Taxonomy* has been used to measure the **development of thinking skills** from one level to another.
- Church's (2008) *Digital Bloom's Taxonomy* addresses the struggles educator faces when attempting to **integrate digital technology** in teaching.

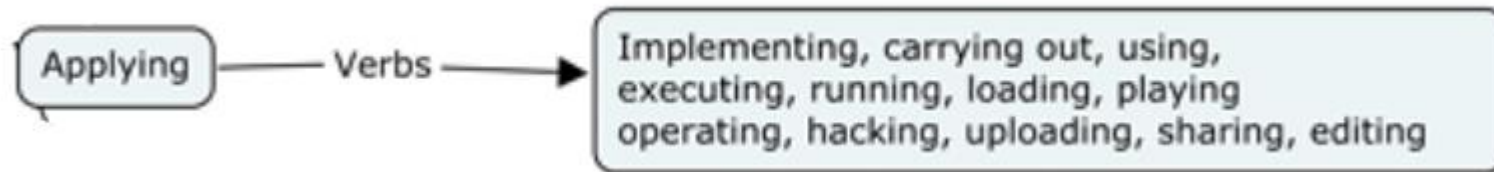
The Era of AI

- ... but then here comes Large Language Models, i.e. ChatGPT and Google's Bard...

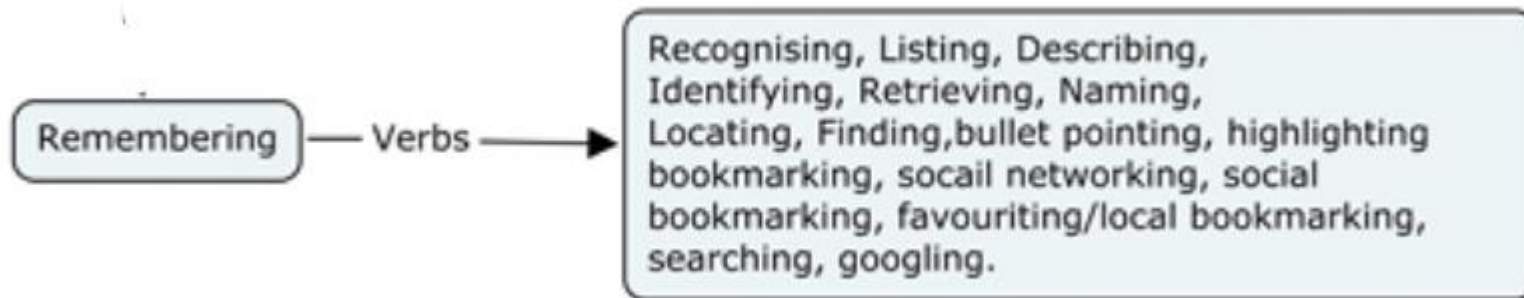


The Era of AI

- ... but then here comes Large Language Models, i.e. ChatGPT and Google's Bard...

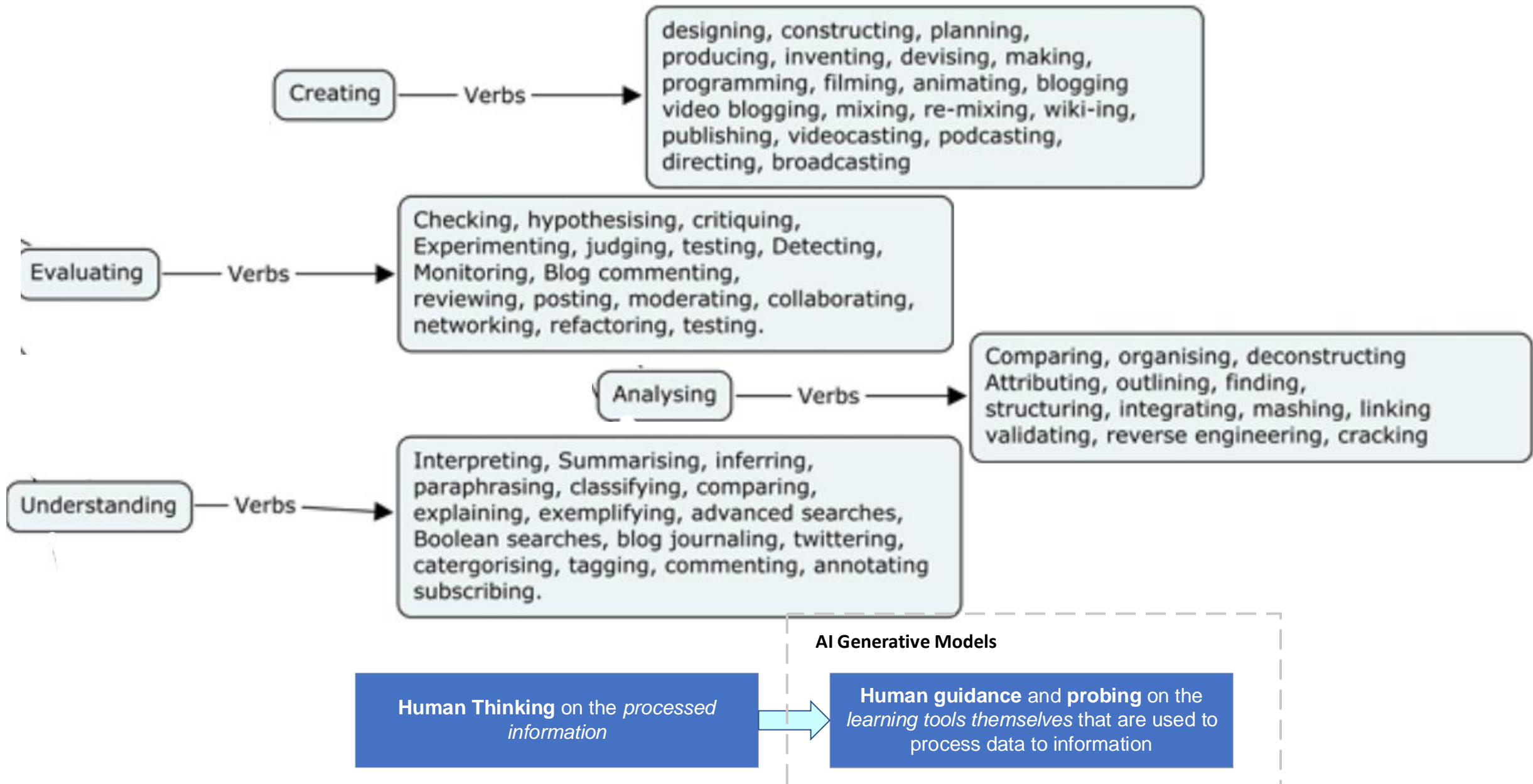


Automation of many tasks that once required the **application of knowledge and skills**.



Our ability to **store and to retrieve** information is **improved** by technology;

Redundancy of such cognitive domains were demonstrated by Mnih (2013), Kozub (2017) and Hafner (2021).



Proven by DeepMind's experiments on Atari Games (Mnih, 2013); AlphaGo (Silver, 2016); DeepSense (Budek, 2018) for the Atari games.

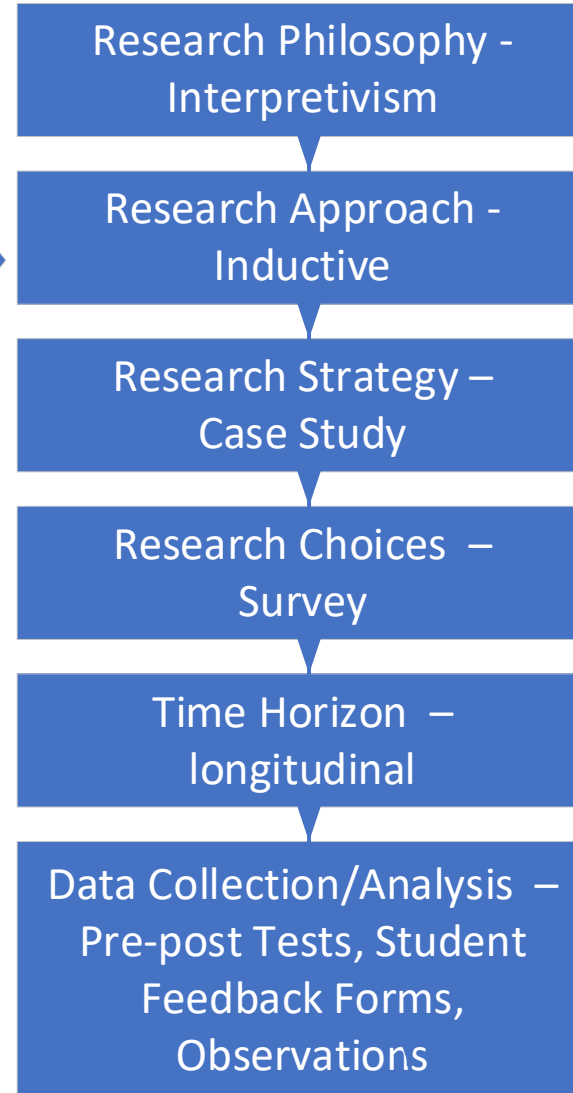
Methodology



"What is the difference between supervised and unsupervised learning in AI?"

"Can you help me understand how the backpropagation algorithm works in neural networks?"

"Suppose I've developed an AI model for credit scoring. The model performs well in terms of accuracy but it seems to disproportionately reject applications from certain zip codes. How should I evaluate its performance and fairness?"



Using “Machine Learning and AI” as a subject, studied the subjective experiences of students

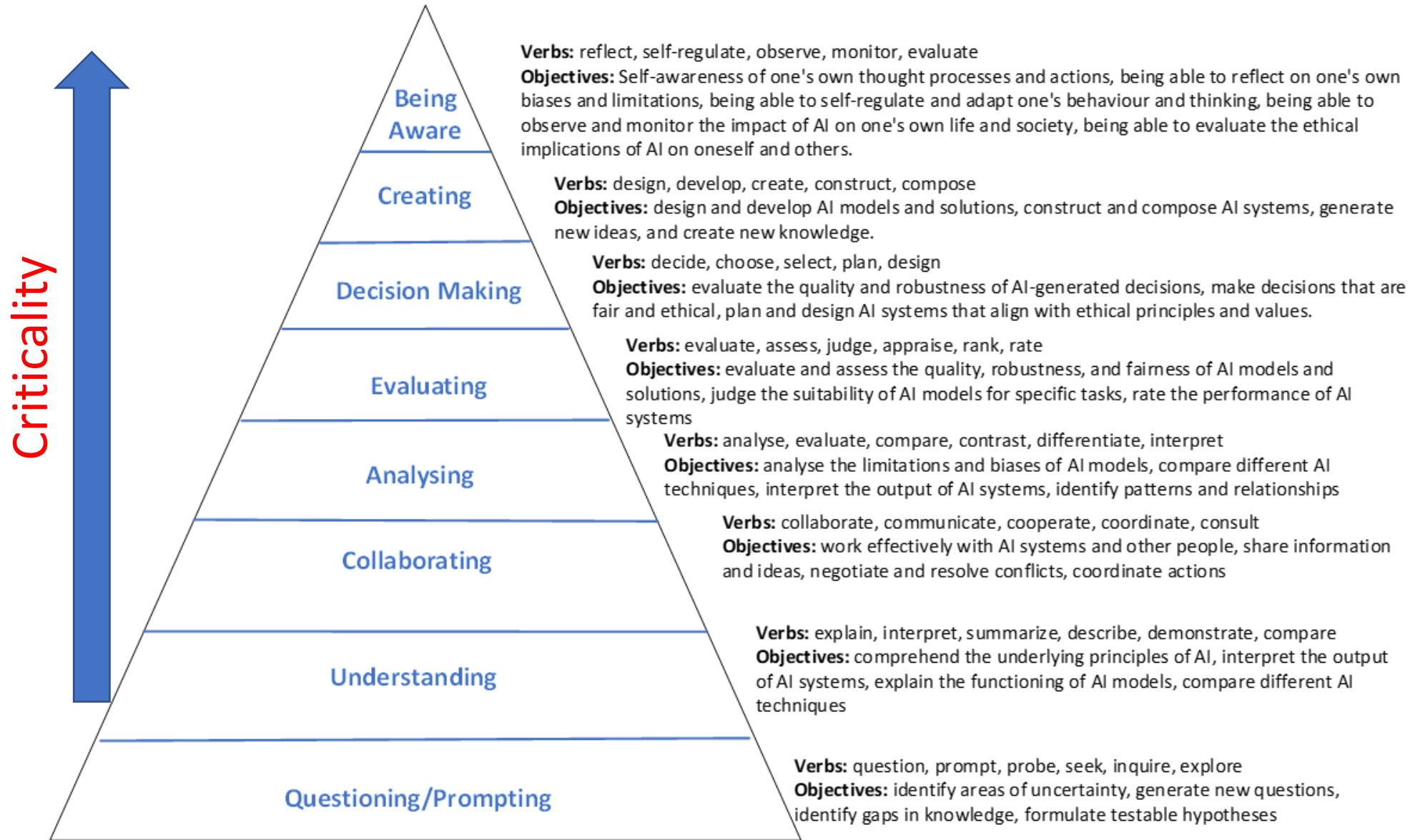
Started with observations to generate a theory about how this framework impacts learning

Interested in an in-depth understanding of students' experiences

Collected data across multiple iterations of a course

Collected data through pre- and post-tests, student feedback forms, observation of classes etc.

Proposed New Framework – QUCA-EDCA



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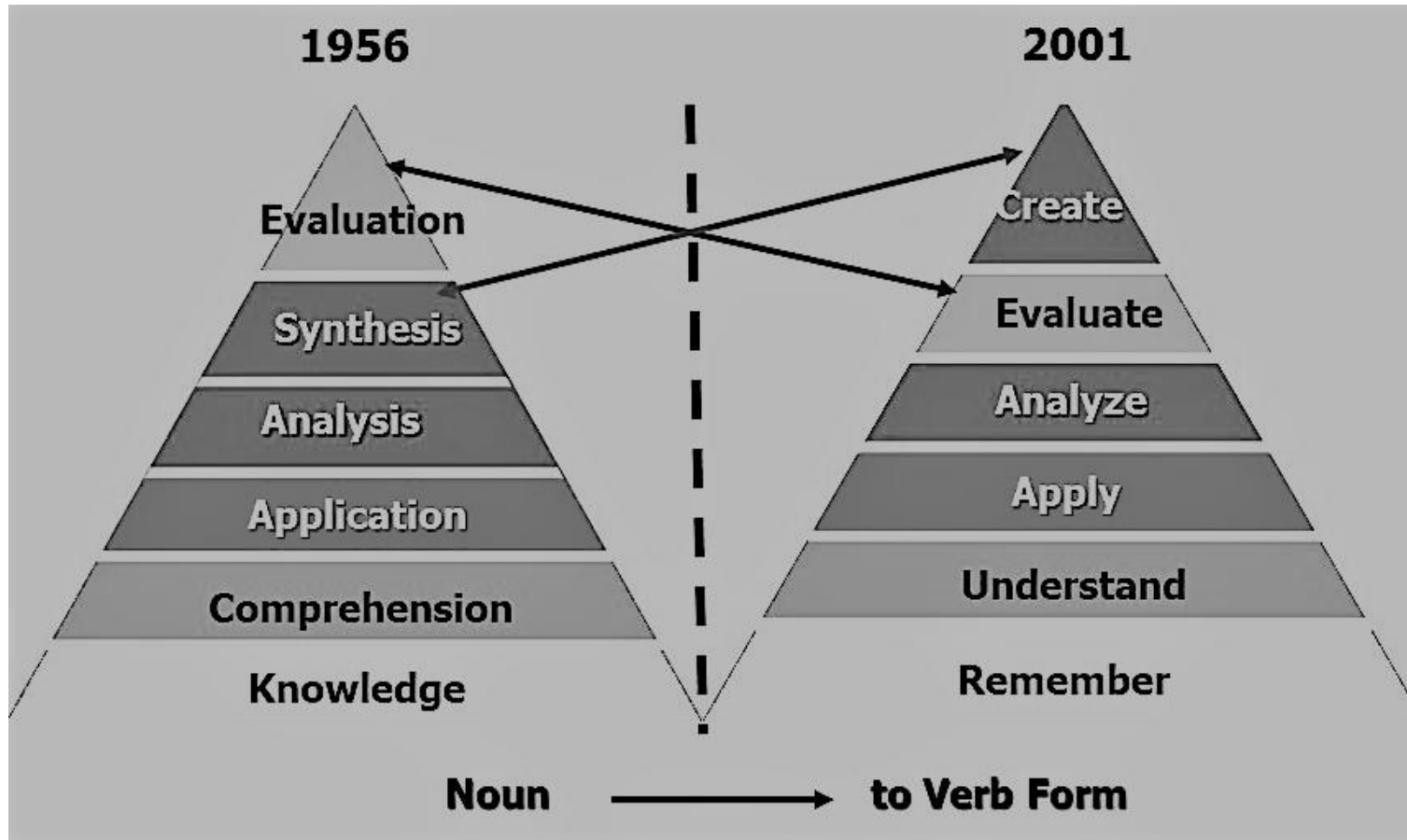
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Appendix

- Bloom's Taxonomy has been used to measure the development of thinking skills from one level to another.

Bloom's Taxonomy (Bloom, 1956; Anderson, et. al., 2001, Krathwohl, 2002)



Wilson (2001, cited in Wilson, 2016)