Effects of Supplemental Spaced Digital Image Identification on Medical Neuroanatomy Practical Scores

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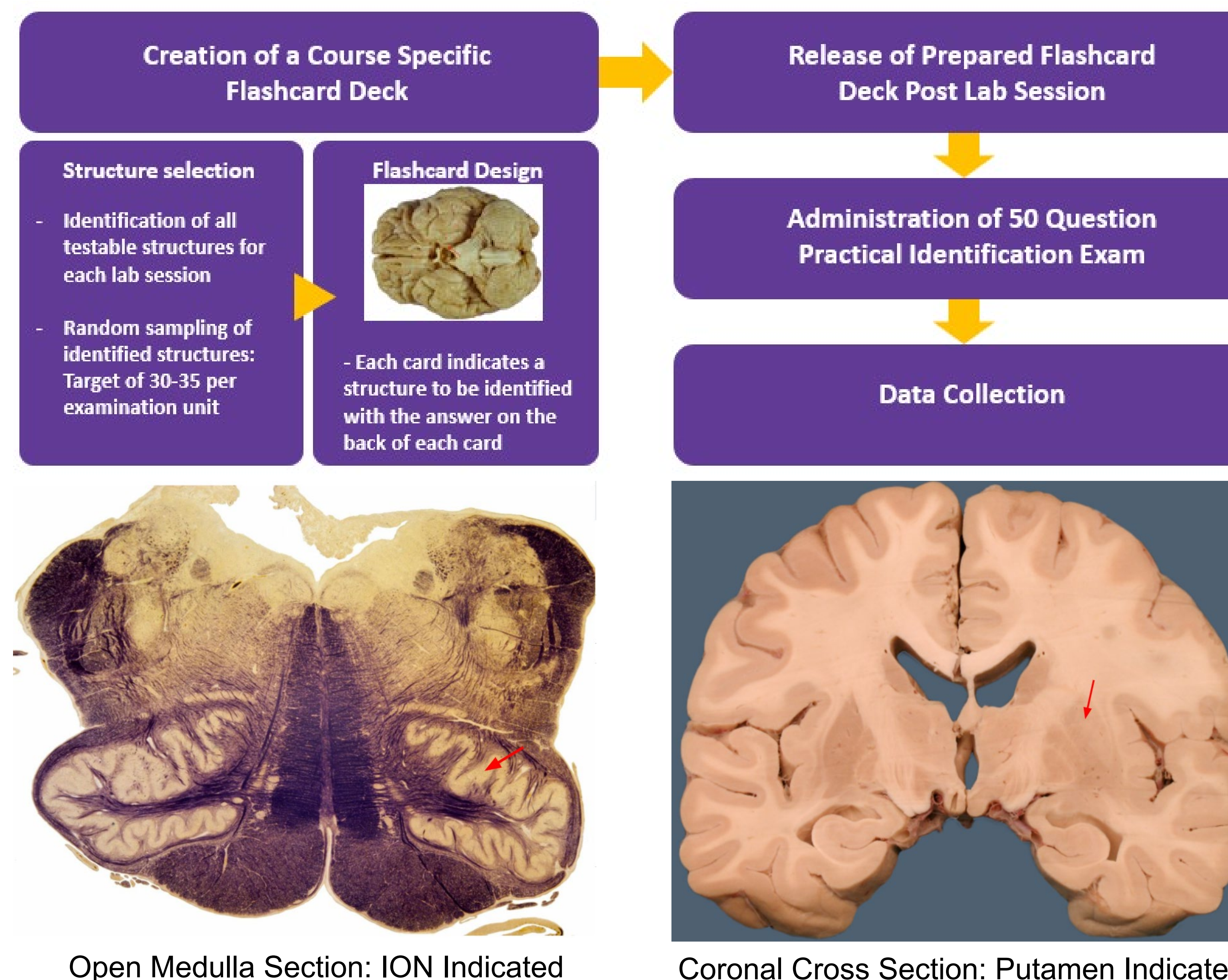Kori L. Brewer, PhD, Dept. of Emergency Medicine, Brody School of Medicine, East Carolina University

IDEA

This study aims to quantify the relationship between student usage of supplemental digital flashcards of gross neuroanatomical structures delivered in a spaced repetition model on student practical examination scores in neuroanatomy coursework.

NEED/RATIONALE

Practical-based exams can induce stress in students, and can often present a barrier to the completion of targeted degrees. The need to be present in the lab to study these courses can pose a barrier, as it is often difficult to schedule a time to be present in the laboratory. There is a growing belief that digital cadaveric imaging may increase students' understanding and performance on these practical-based assessments (Allen, Eagleson, & de Ribaupierre, 2016; Bakr, Massey, & Massa, 2016; Lamperti & Sodicoff, 1997). Can cadaveric images in a digital flashcard format increase student performance on practical-based coursework by utilizing spaced repetition?
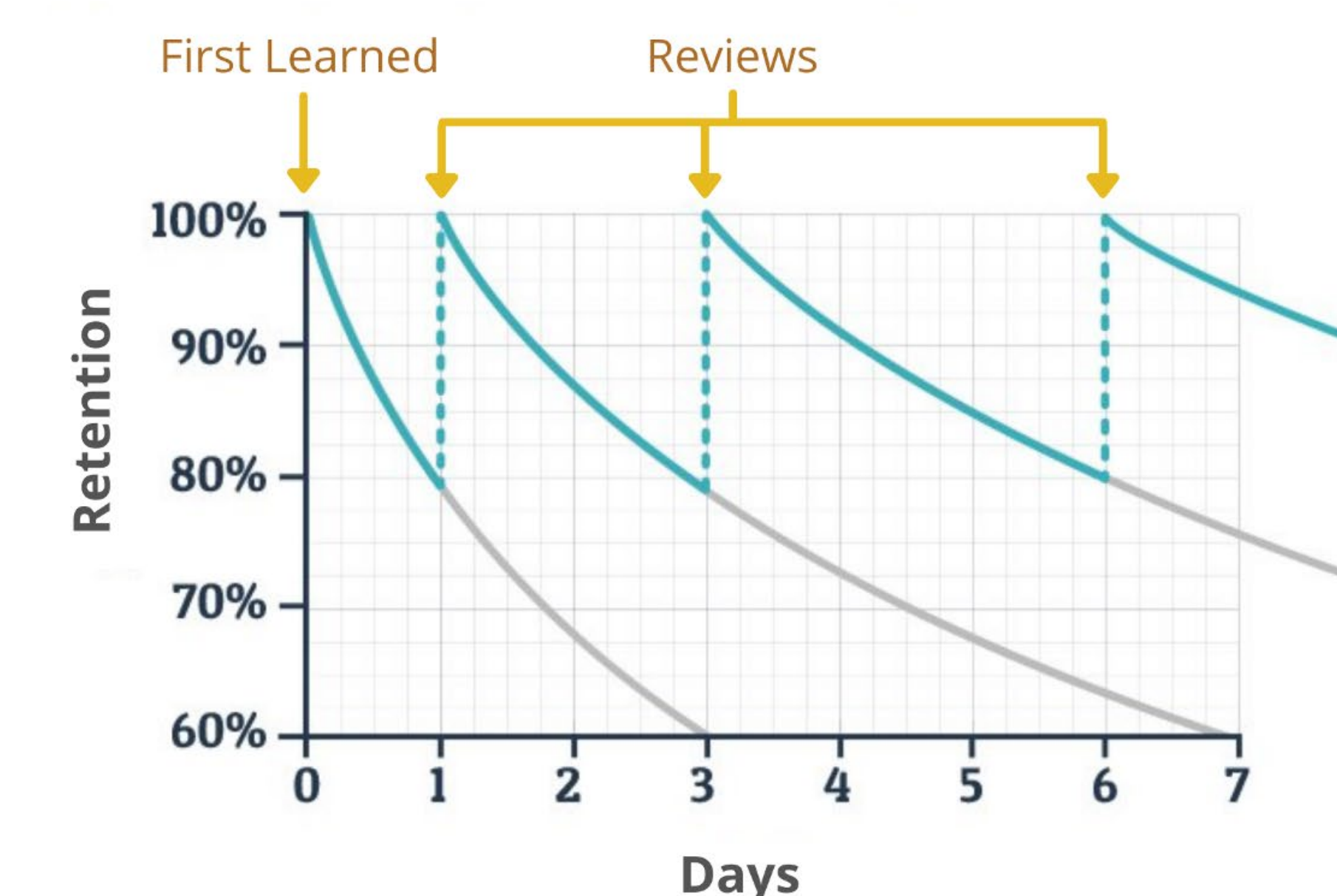
Full Research Proposal Here!

METHODS

Creation of a Course Specific Flashcard Deck

Structure selection
- Identification of all testable structures for each lab session
- Random sampling of identified structures: Target of 30-35 per examination unit

Flashcard Design
- Each card indicates a structure to be identified with the answer on the back of each card

Release of Prepared Flashcard Deck Post Lab Session

Administration of 50 Question Practical Identification Exam

Data Collection

Open Medulla Section: ION Indicated

Coronal Cross Section: Putamen Indicated

EVALUATION PLAN

Did Students Utilize the Anki Deck

Students Utilizing Anki Deck
- Questions related to Anki: Percent Correct
- Questions not related to Anki: Percent Correct

Compare

Students Not Utilizing Anki Deck
- Questions related to Anki: Percent Correct
- Questions not related to Anki: Percent Correct
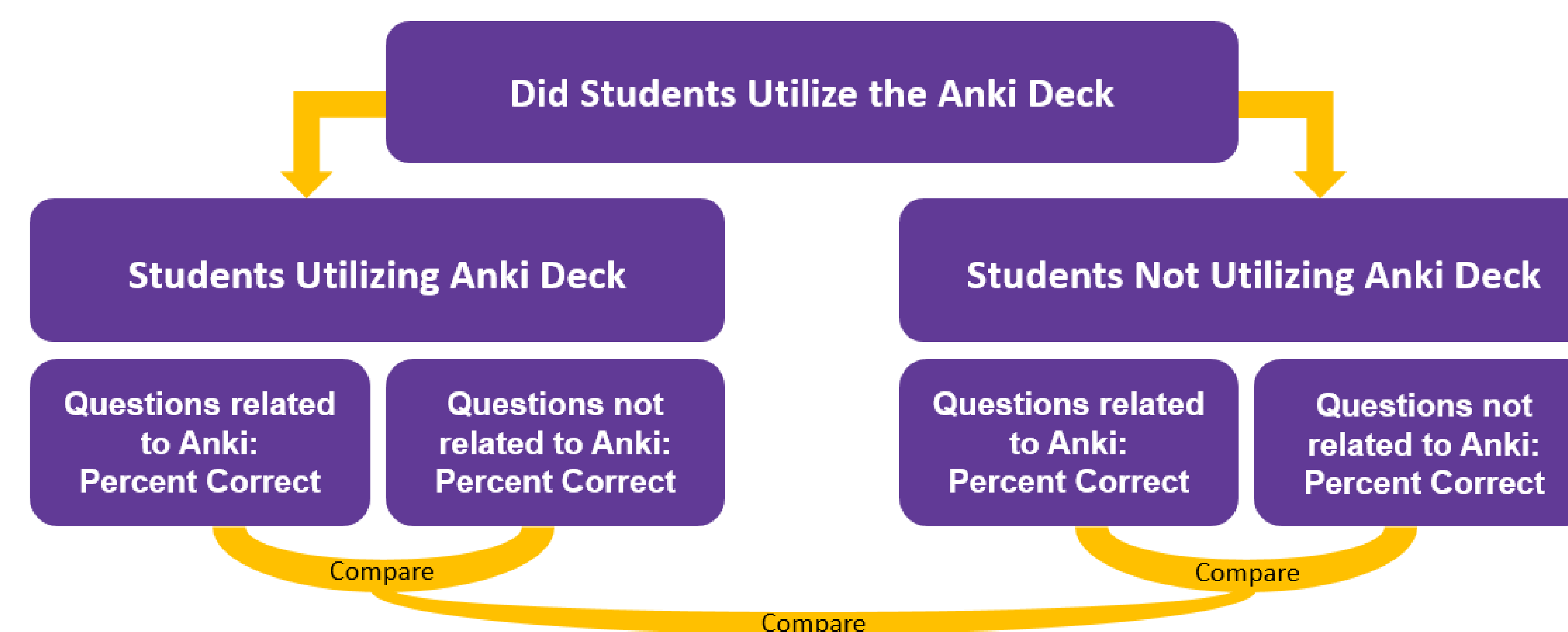
Compare

Compare

SPACED BASED LEARNING THEORY

Spaced repetition is a learning technique that utilizes a time interval system in which the intervals gradually increase as the material is studied. This technique is premised on the Ebbinghaus forgetting curve, which demonstrates the retention of learned material over time (Murre & s, 2015).
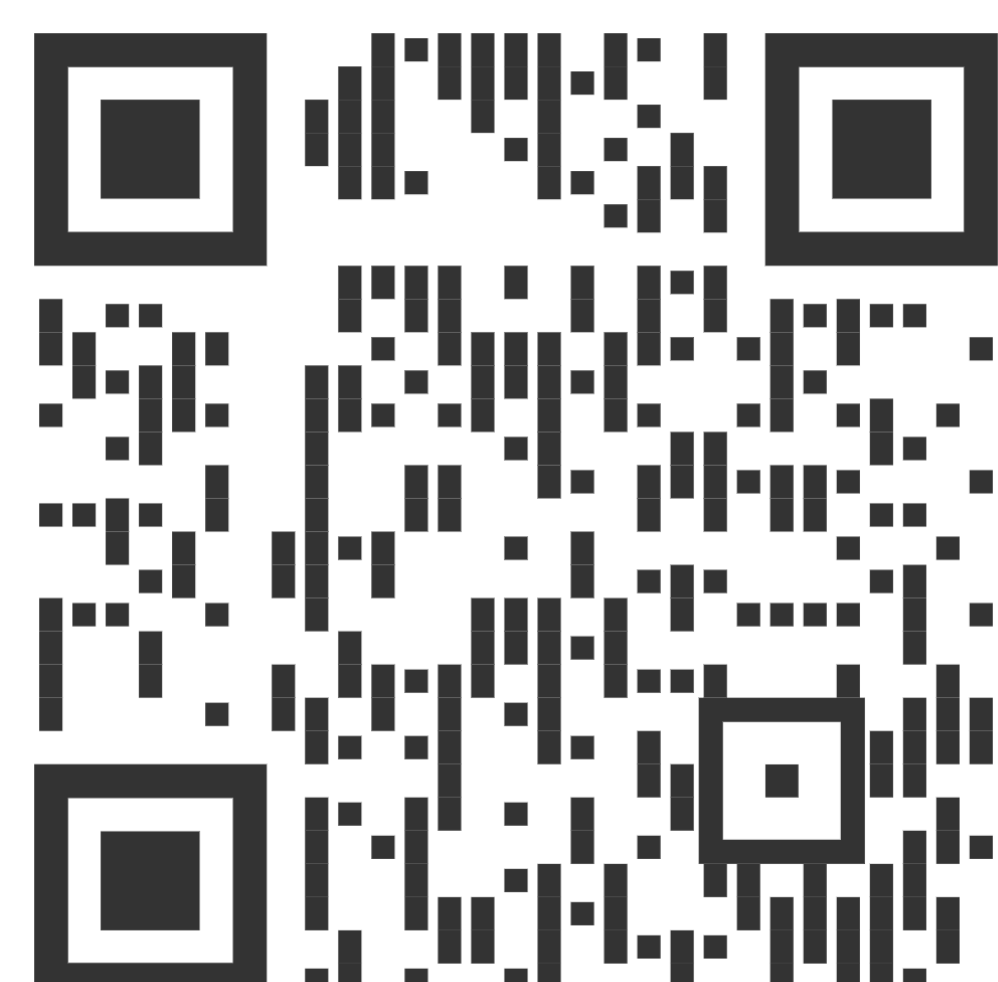
The Forgetting Curve
with Reviews

First Learned   Reviews

How spaced repetition can combat the forgetting curve

REFERENCES

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