A context-dependent event prediction task

An event sequence is a sample path from an event schema conditioned on a situation (fig. 2). An event schema is a graph, where each transition is controlled by a particular feature of the situation (2A). Thus, knowing the features of the situation is useful for event prediction.

Use episodic memory to predict upcoming events

There are three conditions (inspired by [1]): during test, the ongoing situation is ...
- recently observed (RM; recent memory)
- observed in distant past (DM; distant memory)
- new (NM; no memory)

In the DM condition, relevant information is not in working memory, so it needs to be recalled from episodic memory. DM prediction accuracy starts low, and increases after episodic recall takes place.

Encoding at event boundaries reduces subsequent memory errors

We found models that encode at event boundaries performed better at subsequent recall (fig. 7), compared to models that also encode episodic memories within an event sequence (i.e. cumulative encoding), because encoding within an event sequence leads to more confusable memories (fig. 8).

References & Acknowledgement


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