



Regulating thoughts: A case study of mind wandering
and self-regulated learning during learning from videos

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A cartoon illustration of a seminar titled "MIND WANDERING?". A diverse group of people sits in a room, many with dogs on their laps. Above them, a large thought bubble contains various whimsical objects like rockets, a beach, a camera, a cat, and a robot, symbolizing their wandering minds.

Background

- Mind wandering (task-unrelated thought) occurs about 30% of the time when learning (Wong et al., 2022)
- Off-task thought (mind wandering) is a distraction from learning (Brady et al., 2021)
- Learners can become aware of their off-task thoughts (Schooler, 2002)
- Students adjust their learning process to:
 - Learning events
 - Cognitive experiences
 - Distractions
- Metacognition is a central component of self-regulated learning (Winne & Hadwin, 1998)

Research Question

How does self-regulated learning influence off-task thoughts when learning from a video?

- a) How does self-regulated learning influence the frequency that learners realise they are engaging in off-task thoughts when expected to be on task?
- b) How does self-regulated learning influence the type of off-task thoughts which occur when learning from educational videos?
- c) How does self-regulated learning influence the temporal orientation of off-task thoughts which occur when learning from educational videos?

- Case study in 3 courses in SP5 2023
- Participation consists of:
 - Answering five subscales from the SRL-O questionnaire (Broadbent et al., 2022)
 - Metacognition
 - Online Effort Regulation
 - Online Task Strategies
 - Planning and Time Management
 - Study Environment
 - Watching videos that are part of the course for one week
 - Writing thought reports every time they realise they are off-task

- SRL-O subscales
 - Metacognition
 - Online Effort Regulation
 - Online Task Strategies
 - Planning and Time Management
 - Study Environment
- Video player interaction data
- Thought Reports (free text)

Off-Task Thought Coding Schemes

Thought Type

- On-Task Thoughts
- External Distractions
- Task-Related Interference
- Mind Wandering

Temporal Orientation

- Past
- Present
- Future
- No precise temporal orientation
- Atemporal

Descriptive Statistics

Recruitment

Data Type	N
Participants	23
Participant – Video Combination	45
Thought Reports	113

Thought Type Frequency

Thought Type	N = 113 (%)
On-Task Thought	0 (0%)
External Distractions	37 (33%)
Task-Related Interference	36 (32%)
Mind Wandering	40 (35%)

Temporal Orientation Frequency

Temporal Orientation	N = 113 (%)
Past	12 (11%)
Present	49 (43%)
Future	36 (32%)
No precise temporal orientation	3 (2.7%)
Atemporal	13 (12%)

Thought Type x Temporal Orientation

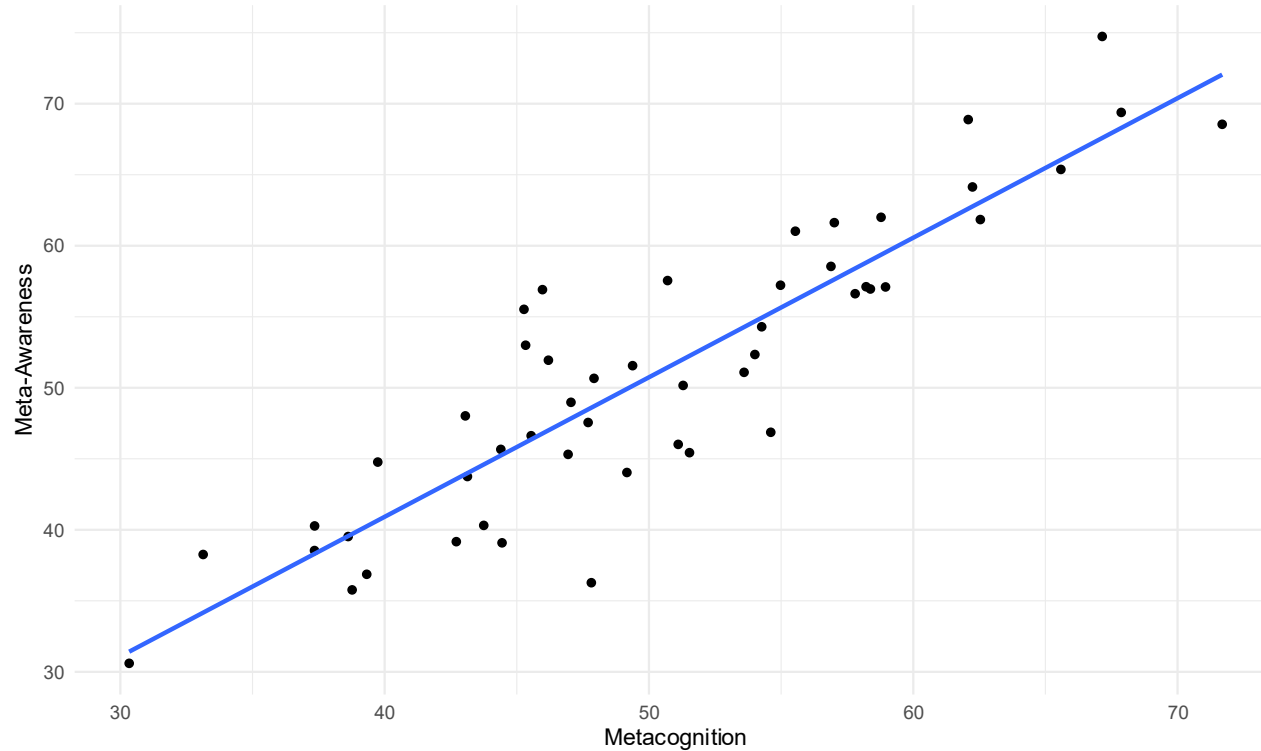
Thought Type x Temporal Orientation	Past	Present	Future	No precise temporal orientation	Atemporal
Task-Related Interference	9	9	14	1	3
Mind Wandering	3	3	22	2	10

Thought Type Frequency x Time

Thought type % per minute	Mean	SD
External Distractions	8.1	4.2
Task-Related Interference	12	10
Mind Wandering	11	8

Planned Analysis

SRL and Meta-Awareness



Example for a future analysis on the relationship between metacognition and meta-awareness.

SRL and Thought Type

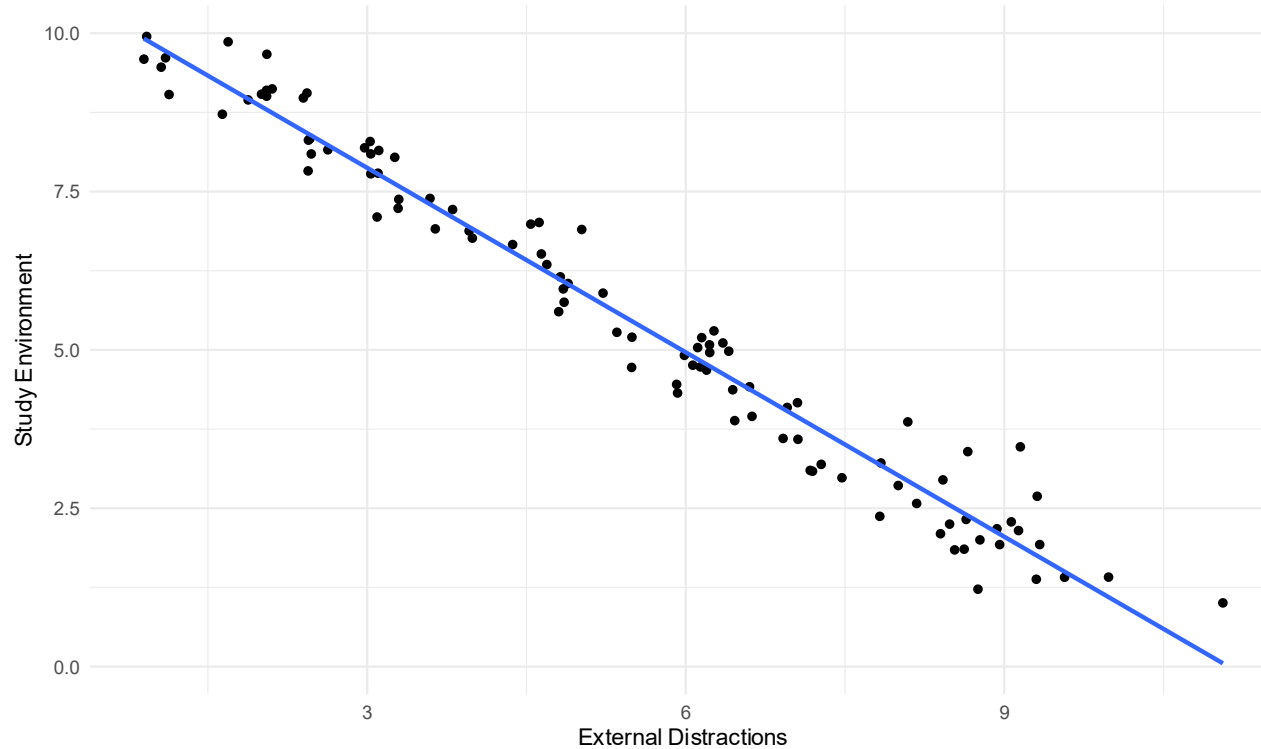
SRL-O Subscales

- Metacognition
- Online Effort Regulation
- Online Task Strategies
- Planning and Time Management
- Study Environment

Thought Type

- On-Task Thoughts
- External Distractions
- Task-Related Interference
- Mind Wandering

SRL and Thought Type



Example for a future analysis on the relationship between study environment and external distractions.

SRL and Temporal Orientation

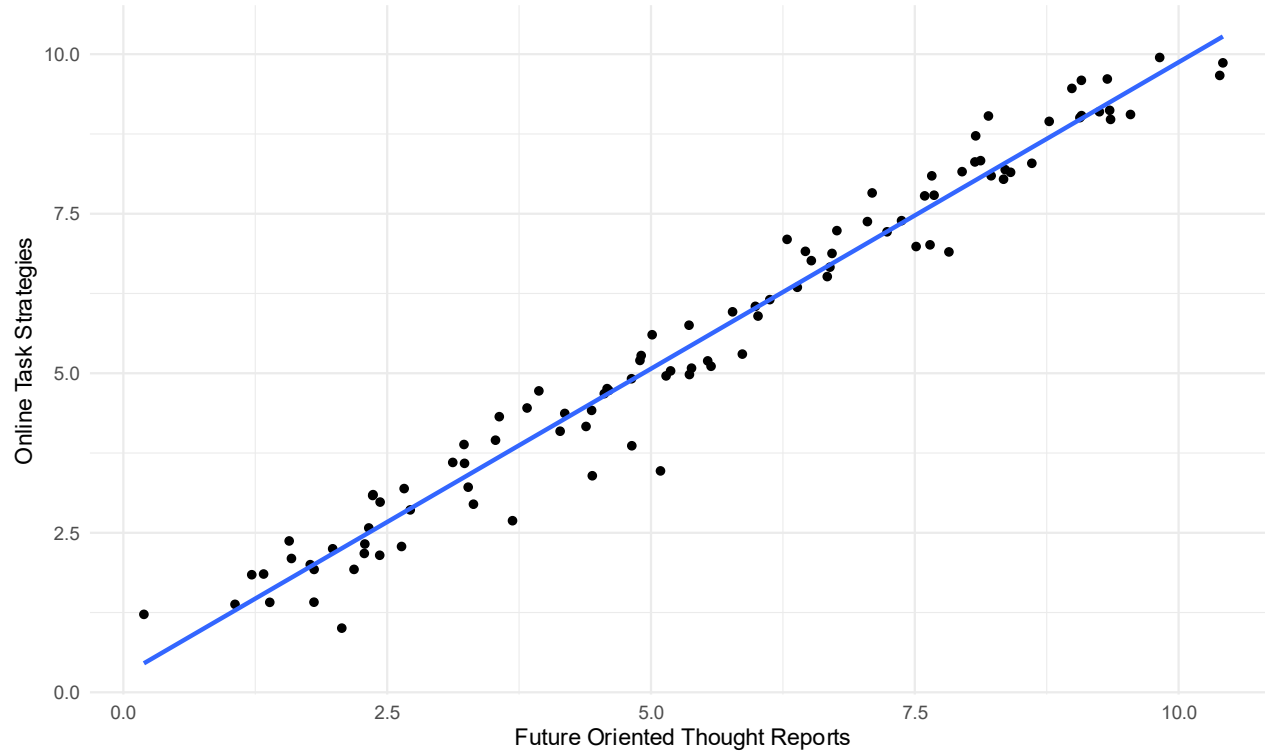
SRL-O Subscales

- Metacognition
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Temporal Orientation

- Past
- Present
- Future
- No precise temporal orientation
- Atemporal

SRL and Temporal Orientation



Example for a future analysis on the relationship between online task strategies and future oriented thought reports.

Seeking Collaborators

Would you like to help with this study?
We are inviting course coordinators to join us!

Talk to me after this presentation or write me an email at daniel.ebbert@mymail.unisa.edu.au.

References

Brady, A. C., Kim, Y., & Cutshall, J. (2021). The What, Why, and How of Distractions from a Self-Regulated Learning Perspective. *Journal of College Reading and Learning*, 51(2), 153–172.

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