



The (un)conscious learner: How meta-awareness influences
self-regulated learning

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Have you recently caught yourself thinking about something unrelated while learning or reading a journal paper?

Mind Wandering / Off-Task Thoughts

- Mind wandering = unintentional task-unrelated thoughts
 - Also called off-task thoughts
- Off-task thoughts occur ~30% of the time during learning activities (Wong et al., 2022)
- Off-task thoughts negatively impact learning outcomes (Wong et al., 2022)

Meta-Awareness

- Meta-awareness means the conscious recognition of one's current thoughts (Schooler et al., 2011)
- Someone who is meta-aware might be aware of their off-task thoughts (Fox & Christoff, 2014)
- Meta-awareness is a form of metacognitive monitoring (Schooler & Smallwood, 2009)

Self-regulated Learning

- Metacognition forms the basis of self-regulated learning (Winne & Azevedo, 2022)

- Develop a model linking meta-awareness and self-regulated learning
- Explore how metacognitive processes influence off-task thought experiences
- Examine potential pathways for learners to adapt to off-task thoughts

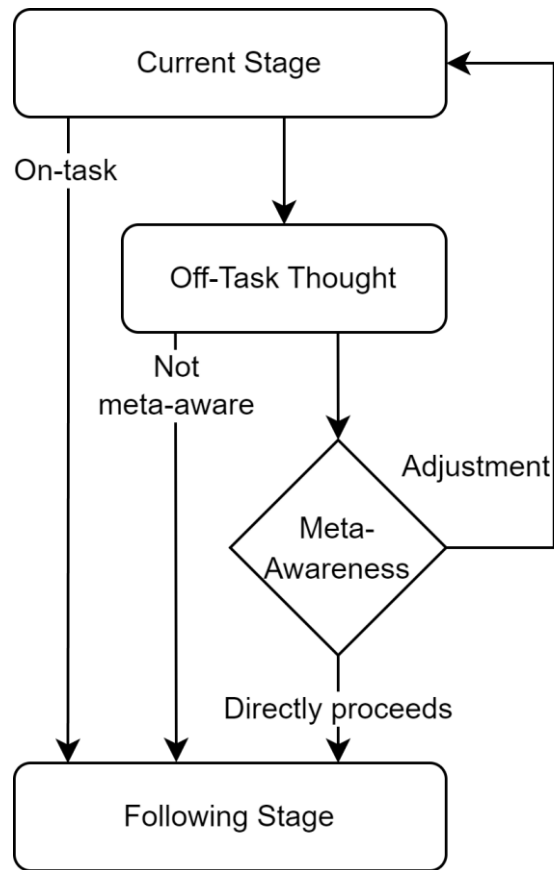
Why COPES?

- Emphasizes metacognition as core component of self-regulated learning (Winne & Azevedo, 2022)
- Describes how learners adapt to tasks through metacognitive monitoring and control
- Provides framework for understanding how off-task thoughts may influence each stage of learning

COPES Stages

- Stage 1: Task Definition
- Stage 2: Goal Setting and Planning
- Stage 3: Enacting Study Tactics and Strategies
- Stage 4: Metacognitively adaptive studying

Pathways between Stages



Stage 1: Task Definition

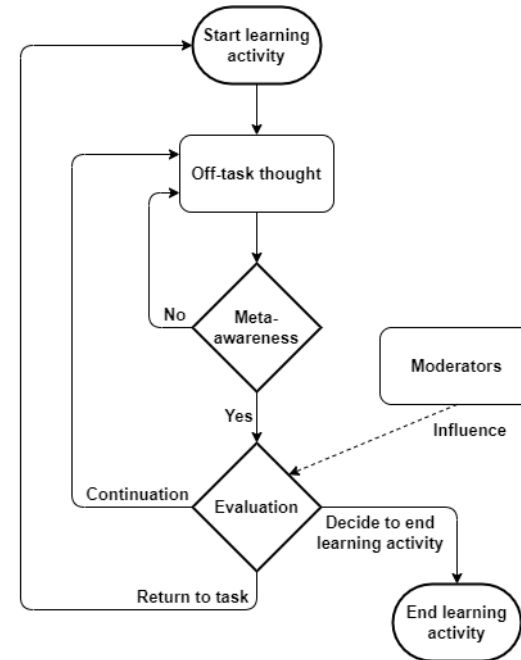
- Learners analyse the task
- Off-task thoughts could result in misinterpretation of the task

Stage 2: Goal Setting and Planning

- Learners set goals and plan how to achieve these goals
- Plan could include monitoring for off-task thoughts
- Off-task thoughts could result in a suboptimal goal and plan

Stage 3: Enacting Study Tactics and Strategies

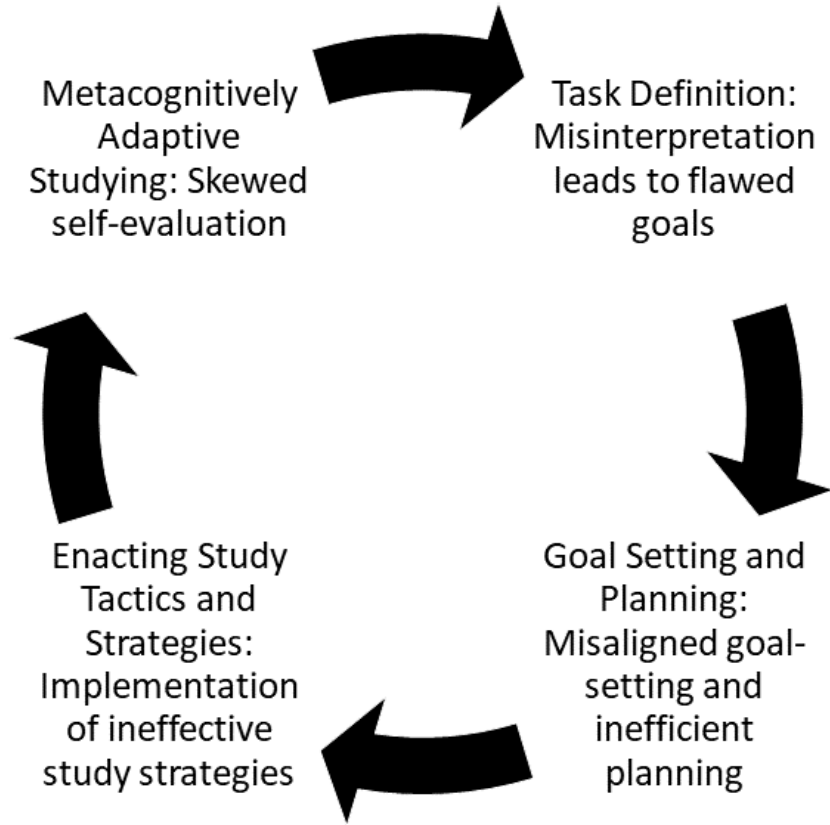
- Learners enact the study plan
- Off-task thoughts most likely during this stage
- Off-task thoughts during task execution results in missing parts of the content



Stage 4: Metacognitively adaptive studying

- Learners reflect on the learning experience
- Off-task thoughts during this stage might lead to misalignment between actual learning experience and subsequent evaluation

Cascading Effect of Off-Task Thoughts



Potential Moderators

Moderating Factor	Relevance
Thought Content	• Off-task or task-related interference • Comprehension-congruent or comprehension-incongruent
Goal Orientation	• Whether the thought was goal-oriented
Time on Task	• Number of previous off-task thoughts
Motivation	• Higher motivation balances out the negative effects of off-task thoughts • Higher motivation leads to increased meta-awareness
Interest	• Interest in the topic correlates with fewer off-task thoughts
Mood	• Negative mood increases off-task thoughts

Example

- Kara is studying Newton's laws of motion
- Sets goal to take detailed notes about the textbook
- Experiences off-task thoughts about her upcoming weightlifting competition
- After being meta-aware she checks her notes to find her place in the book
- The longer she is studying, the more frequent her off-task thoughts become
- She chose to take a break and revise the studied content

Future Research

- Are self-regulated learners increasingly meta-aware compared to learners less skilled at self-regulated learning?
- Do meta-aware self-regulated learners react to their off-task thoughts?
- Does being meta-aware balance out the negative impact of being off task?

- Under which conditions do learners become meta-aware and change their learning tactics?
- Which moderators influence if a reaction to off-task thoughts occurs?

Collaboration Opportunities

- Seeking research partners to test this theory
- Contact: daniel.ebbert@mymail.unisa.edu.au

Thank you!

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