

Introduction to self-regulated learning

AI offers the promise of individualising students' learning processes, as they can interact with AI tools like ChatGPT to construct their own learning paths, in courses they follow.

This requires a level of autonomy and pro-active organisation of students' work which contrasts with the way high-schools and universities operate traditionally, whereby knowledge is taught in a fairly linear way by teachers to students, in a collective setting.

The following two prompts for GPT-4 explain some of the basic ideas of self-regulated learning (the responses by GPT-4 were given in August 2023).

Prompt: "Explain what self-regulated learning is." (August 2023)

GPT-4: Self-regulated learning refers to the process by which students take control of their own learning by setting goals, monitoring their progress, adjusting their strategies, and reflecting on their outcomes. It involves:

1. **Goal-setting:** Defining what one wants to learn or achieve.
2. **Self-monitoring:** Keeping track of one's own performance and progress.
3. **Strategic planning:** Choosing the right approaches or methods to learn or solve problems.
4. **Self-evaluation:** Reflecting on and assessing one's performance and understanding.
5. **Motivation management:** Finding ways to stay motivated and overcome challenges or distractions.
6. **Resource management:** Using time, study spaces, tools, and help from others effectively.

Students who are self-regulated are more adaptive, flexible, and proactive in their learning, often achieving better academic outcomes. They are better equipped to handle challenges and can adapt to different learning environments and requirements.

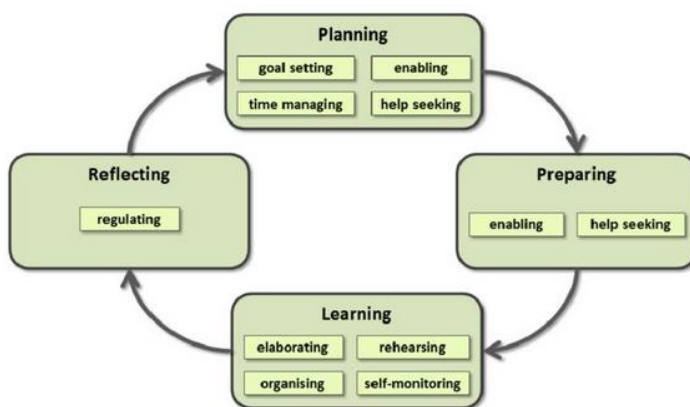
Prompt: "How can I teach this to students?"

GPT-4: Teaching students self-regulated learning involves a combination of direct instruction, modeling, and practice. Here are some steps to guide students through the process:

1. **Awareness:**
 - Begin by discussing the concept of self-regulated learning with students.
 - Help them recognize its importance and its impact on their academic success.
2. **Goal Setting:**
 - Teach students how to set specific, measurable, achievable, relevant, and time-bound (SMART) goals.
 - Encourage them to break larger tasks into smaller, manageable steps.
3. **Modeling:**
 - Model the self-regulated learning process yourself.
 - Share personal experiences, strategies you use, and how you adapt when faced with challenges.
4. **Strategy Instruction:**
 - Teach specific learning strategies (e.g., summarizing, note-taking, mnemonic devices).
 - Discuss when and why to use each strategy.

5. **Self-monitoring and Reflection:**
 - Provide tools like checklists or journals to help students monitor their progress.
 - Encourage regular reflection on what's working and what's not.
6. **Feedback:**
 - Give consistent feedback on both their learning process and the content.
 - This helps students see where they're succeeding and where they need to adjust.
7. **Motivation:**
 - Discuss factors that influence motivation.
 - Help students identify their personal motivators and teach them strategies to enhance motivation (e.g., rewards, visualization).
8. **Resource Management:**
 - Encourage students to be aware of their learning environment and to make necessary adjustments.
 - Discuss effective time management and the importance of taking breaks.
9. **Practice and Application:**
 - Allow students to practice these skills in various contexts.
 - Encourage them to use self-regulation strategies in all their subjects and even in extracurricular activities.
10. **Peer Interaction:**
 - Allow students to work in groups where they can share strategies and learn from each other.
 - Peer discussions can provide insights into different methods and approaches to learning.
11. **Regular Review:**
 - Periodically review and reinforce the concepts of self-regulated learning.
 - Discuss challenges faced and strategies used, making adjustments as necessary.

Remember, the aim is to make students aware of their own learning processes, so they can independently choose the best strategies, adjust them when necessary, and continue learning effectively throughout their lives. It may require patience and consistent reinforcement, but the long-term benefits are well worth the effort.



Figure

Caption

Figure 3.1. The self-regulated learning process model consists of four phases and related learning strategies.

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Source: Nussbaumer, A., Kravick, M. Renzel, D., and Albert, D., "[A Framework for Facilitating Self-Regulation in Responsive Open Learning Environments](#)", arXiv, July 2014.

More information is available on the Wikipedia page of [Self-regulated learning](#).