Pro-Revise

A Scientific Approach to Personalised Learning

VARK Learning Styles

At its core, Pro-Revise utilises the principles of the VARK Learning Methods, a science-backed approach to understanding individual learning preferences (Othman and Amiruddin, 2010), to deliver targeted revision strategies. Whether the user is a Visual, Auditory, Reading/Writing, or Kinesthetic learner, there are multiple Revision Methods to suit their own learning preferences.

As part of their Pro-Revise licence, users get free access to the official VARK questionnaire first developed in 1995 (Fleming, 1995). The questionnaire contains 13 questions, which are based on everyday situations where the user can select more than one answer for each question. Taking the VARK questionnaire and understanding their learning style can promote self-awareness and self-directed learning. Students can take responsibility for their own learning by seeking out resources and choosing revision methods that cater to their preferred style, leading to a more independent and proactive approach to learning (Shah et al. 2013).

Each Pro-Revise Revision Method is designed to meet the varying needs of learners, based on the VARK learning styles, providing a more rounded and flexible study experience that is firmly rooted in evidence-based educational research (Hawk and Shah, 2007; Bhagat, Vyas and Singh, 2015).

Scaffolded Learning

For students who experience learning barriers, Pro-Revise is not merely an 'exam-time' emergency tool; it is intentionally crafted to be a year-round study companion. Through its approach to Scaffolded Learning (McLoughlin and Marshall, 2000), Pro-Revise guides students as they add new academic material throughout the year, offering tailored revision methods that adapt to their evolving needs. This means that the earlier a student starts using Pro-Revise, the more effective their learning and revision will be.

Spaced Repetition

The integrated Study Planner is built on the science of Spaced Repetition, a proven methodology that enhances retention and understanding over time (Schimanke, Mertens and Vornberger, 2017). The Planner prompts users to maintain consistent study habits, breaking down overwhelming exam material into manageable tasks spread throughout the academic term. The year-round application of Pro-Revise ensures not just exam success, but sustained academic achievement.

Dual-Coding Theory

Pro-Revise also aligns with the Dual Coding Theory, which posits that learning is more effective when different types of information representations are used simultaneously (Paivio, 1991). Many of Pro-Revise's Revision methods offer multiple sensory channels (visual, auditory, reading/writing, and kinesthetic) facilitating dual coding. This is invaluable for disabled learners, including those with SpLDs, as it enhances memory retention and information recall through multiple pathways.

Metacognition & Self-Directed Learning

Pro-Revise incorporates principles of Metacognition, as described by Fleming and Baume (2006), by encouraging students to actively engage in reflection on their learning strategies and preferences. Through the personalised Mock Exam and learning preference feedback, students can gain insight into their learning behaviours, thereby fostering a deeper understanding of how they learn best. This metacognitive layer not only improves the efficacy of revision but also empowers students to take greater ownership of their educational journey.

Through an exploration of learning, psychology and educational theory, McLoughlin & Marshall (2000) identify 4 skills and cognitive abilities required for online learning. The table below outlines these 4 skills along with the complementary tools and features within Pro-Revise that support the development of these skills:

Skill	Skills required for effective learning	Pro-Revise Feature
Articulation	Being an aware learner - Able to articulate misconceptions and reflect/identify areas in need of remediation	Utilising the VARK questionnaire, Pro-Revise enables students to enhance their metacognitive understanding of personal learning styles and to identify areas for improvement, complemented by the Mock Exam feature for targeted remediation.
Self-Regulation	Being able to plan one's own study and adjust one's strategies in order to achieve a goal or complete a task.	Pro-Revise's personalised study planner and a variety of revision methods empower students to strategically plan and control their study trajectories to achieve their academic objectives.
A repertoire of learning strategies	Being able to plan and implement a flexible range of learning strategies	Pro-Revise offers a diverse array of VARK-based revision methods, providing students with the flexibility to implement learning strategies that best suit their individual needs.

Self-assessment /self-evaluation	Self-tests and monitors own understanding; searches for ways to improve and revise understanding	The Mock Exam tool enables consistent self-evaluation, while the revision pools facilitate ongoing knowledge assessment, allowing students to refine their understanding and learning approaches over time.

Drawing on the findings of Pino & Mortari (2014), which emphasise the benefits of technology tools in enhancing student control over learning, Pro-Revise offers a bespoke educational experience tailored to individual learning styles, as identified through the VARK questionnaire. This innovative approach, aligned with the reported advantages of AT, includes over 10 revision methods catering to diverse learning preferences, efficient knowledge retrieval through revision pools and the capability to create personalised study resources. Additionally, Pro-Revise's self-paced learning model, complete with a custom Study Planner that integrates with users' schedules, embodies the essence of technology to enhance learning by offering a flexible, user-centric approach to revision (Pino & Mortari, 2014).

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