Dear IB educator,

I would like to introduce ReasoningLab's critical thinking program Rationale™ and to offer you a free trial version.

We are aware of the importance of critical thinking to IB programs and the manner in which it is embedded in your curriculum. We also know how difficult it is to improve students' critical thinking skills. This very problem instigated Associate Professor Tim van Gelder to develop Rationale.

After years of frustration attempting to teach university students critical thinking with traditional methods, Tim van Gelder started searching for better methods and tools. He discovered that argument mapping had a positive impact upon his students at Indiana University, and initiated a research project at *The University of Melbourne* to develop critical thinking resources and argument mapping software.

Five years of research confirmed van Gelder's experience: argument mapping improves critical thinking skills. The *California Critical Thinking Skills Test*, an international standard in this area, demonstrates a fourfold gain in critical thinking skills compared to standard tuition for a 12 week undergraduate course.

Buoyed by these results, van Gelder and his research group created a new generation of argument mapping software to teach critical thinking skills. Rationale was developed, with a focus upon meeting education needs at primary, secondary and tertiary levels.

Australian IB schools such as Geelong Grammar School, Ivanhoe Grammar School, Tintern Grammar and Trinity Grammar School found that Rationale is at home in educational programs where critical thinking plays a primary role in students' academic and personal development.

Furthermore, specific IB resources were created. These include online exercises for understanding and practicing key concepts in the Theory of Knowledge component of the IB Diploma program, and e.g. an essay writing guide to assist students organize, structure, evaluate, analyze and communicate their ideas, particularly for the extended essay. See www.ReasoningLab.com/materials/IB.

Two years ago ReasoningLab became the new owner of Rationale in order to enable its further development. The online version of Rationale is now available, in several languages.
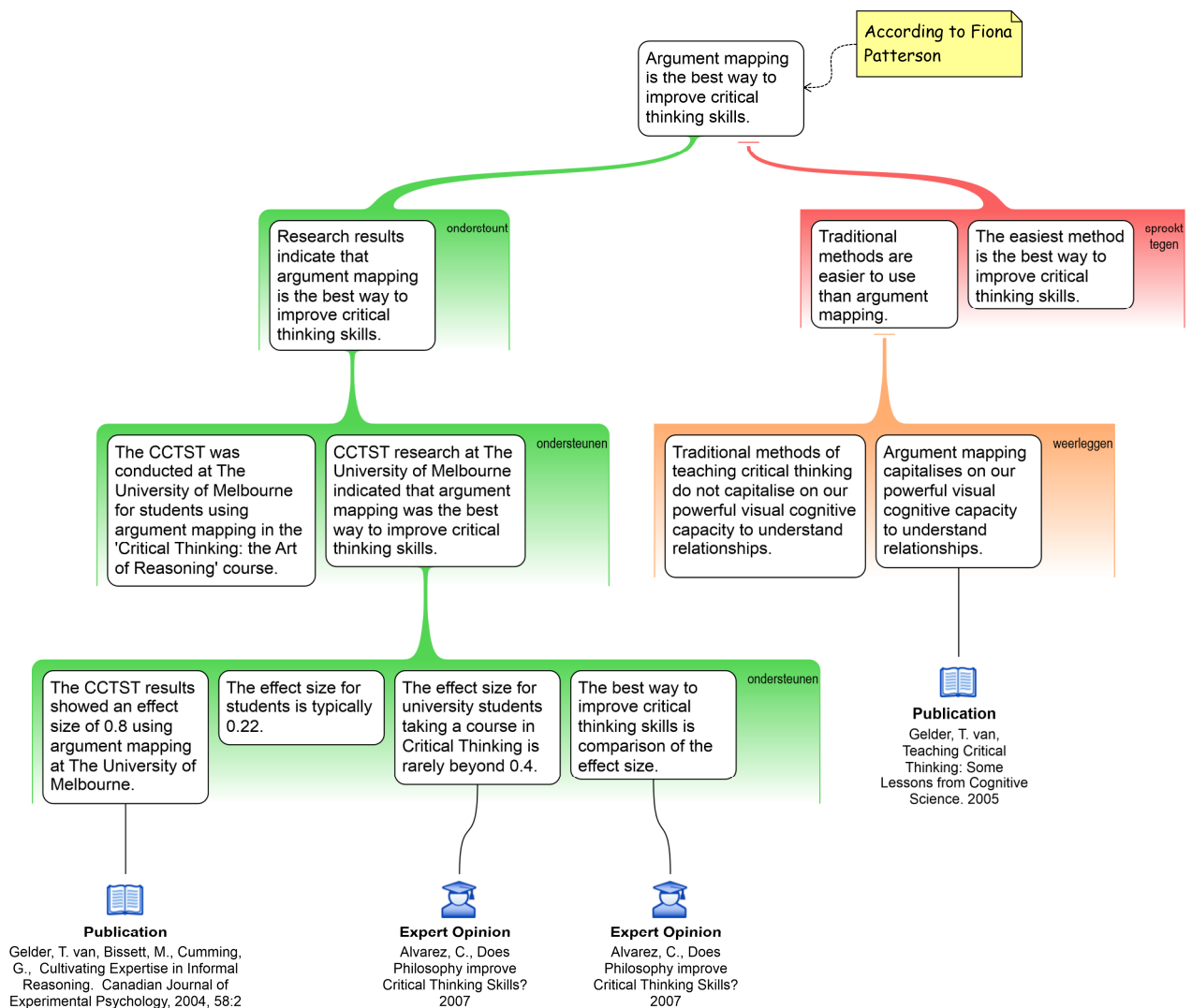
Interested in a free trial version of Rationale online? Please write down your e-mail address or email me at timoterberg@reasoninglab.com.

Sincerely,

Timo ter Berg

CEO ReasoningLab
Amsterdam
The Netherlands

![Rationale logo]

Research behind Rationale

Argument mapping is the best way to improve critical thinking skills.

According to Fiona Patterson

ondersteunt

Research results indicate that argument mapping is the best way to improve critical thinking skills.

sprekt tegen

Traditional methods are easier to use than argument mapping.

The easiest method is the best way to improve critical thinking skills.

ondersteunen

The CCTST was conducted at The University of Melbourne for students using argument mapping in the 'Critical Thinking: the Art of Reasoning' course.

CCTST research at The University of Melbourne indicated that argument mapping was the best way to improve critical thinking skills.

weerleggen

Traditional methods of teaching critical thinking do not capitalise on our powerful visual cognitive capacity to understand relationships.

Argument mapping capitalises on our powerful visual cognitive capacity to understand relationships.

ondersteunen

The CCTST results showed an effect size of 0.8 using argument mapping at The University of Melbourne.

The effect size for students is typically 0.22.

The effect size for university students taking a course in Critical Thinking is rarely beyond 0.4.

The best way to improve critical thinking skills is comparison of the effect size.

Publication
Gelder, T. van, Teaching Critical Thinking: Some Lessons from Cognitive Science. 2005

Publication
Gelder, T. van, Bissett, M., Cumming, G., Cultivating Expertise in Informal Reasoning. Canadian Journal of Experimental Psychology, 2004, 58:2

Expert Opinion
Alvarez, C., Does Philosophy improve Critical Thinking Skills? 2007

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Alvarez, C., Does Philosophy improve Critical Thinking Skills? 2007

Further reading

- Álvarez Ortiz, C.M. (2007), Does Philosophy Improve Reasoning Skills? MA Thesis, University of Melbourne. [This document contains the results of the important meta-analysis which indicates that argument mapping-based instruction *can* reliably produce very substantial gains in critical thinking; see Chapter 5].

- Twardy, C. R., (2004). Argument Maps Improve Critical Thinking. *Teaching Philosophy*, 27:2.

- van Gelder, T. J., Bissett, M., & Cumming, G. (2004). Cultivating expertise in informal reasoning. *Canadian Journal of Experimental Psychology*, 58, 142-152.

- van Gelder, T.J.(2005).Teaching Critical Thinking: Some Lessons from Cognitive Science. *College Teaching*, 53,1-6.

- www.ReasoningLab.com, or www.CriticalThinking.eu under Downloads, for more related results of research on Argument Mapping in teaching.