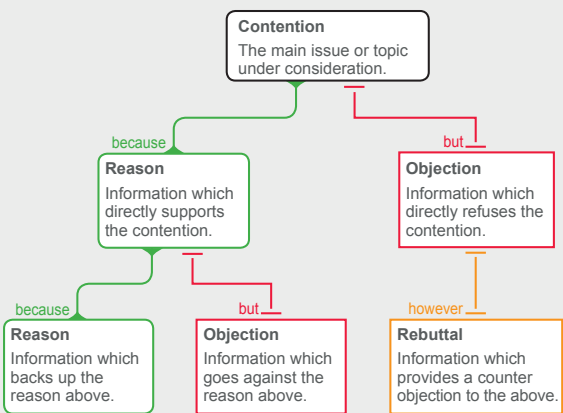


Critical thinking and Essay writing with Rationale®



Students need the skills to:

- Construct an argument that is supported by logic and evidence
- Make reasonable objections to their own position and that of others
- Detect faulty reasoning
- Evaluate evidence and reasoning
- Write a clear, well-structured essay
- Form a balanced position in a debate



Critical Thinking with Rationale

Make argument maps to:

- ✓ Categorize information
- ✓ Structure arguments
- ✓ Identify assumptions
- ✓ Evaluate evidence
- ✓ Justify conclusions
- ✓ Communicate clearly
- ✓ Write essays
- ✓ Think critically

Simply better thinking

Need tools to help your students gain these skills?

Help your students develop critical thinking and writing skills, competencies essential for their study and future. Critical thinking is chosen as one of the 21st Century Skills.

We would like to introduce Rationale®, a program to structure thinking and writing skills. Rationale® is an educational program designed to guide students from basic brainstorming tasks toward evaluated reasoning and clear well-structured essays.

By making argument maps, you visually display and scaffold the thinking process. Argument maps allow teachers to monitor and assess students' thinking processes.

Rationale's argument mapping method is an intuitive format, designed to build critical thinking and writing skills in all subject areas. It acts as a pedagogical support for the development of critical thinking skills founded through five years of university research.

Rationale® is easy and fun to use.

Free teacher resources and educational materials are available.

Learning higher-order thinking skills by creating maps

Why map?

- Making maps reduces cognitive strain, thereby freeing capacity to clarify thoughts and reasoning
- Mapping helps to develop general critical thinking skills:

1. **Organize complex information**
Being able to see an overview, and connections between each point, allows students to better get to grips with the issue.
2. **Communicate** The finished map acts as a guide to presenting the information clearly.
3. **Maintain focus** Maps enable us to remain focused on the key issues, where the natural tendency of thoughts and debates is to meander and stray off topic or go off on tangents.
4. **Think critically** By conveying the essential parts of an argument in maps, it is easier to focus on the quality of the arguments.

In Rationale® you can create different kinds of maps: grouping maps, reasoning maps and advanced reasoning maps. You can visually display different kinds of evidence. Furthermore, you can evaluate maps and export them as an essay or essay outline.

What is an argument map?

An argument map is the visual representation of the structure of an argument.

Argument maps are driven by the questions:

“Why should I believe that?”

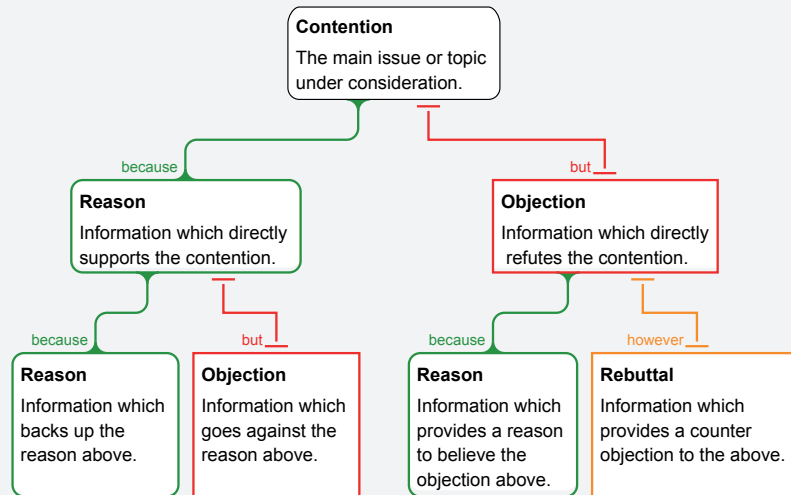
What’s the evidence for/against it?”

Elements of an argument map:

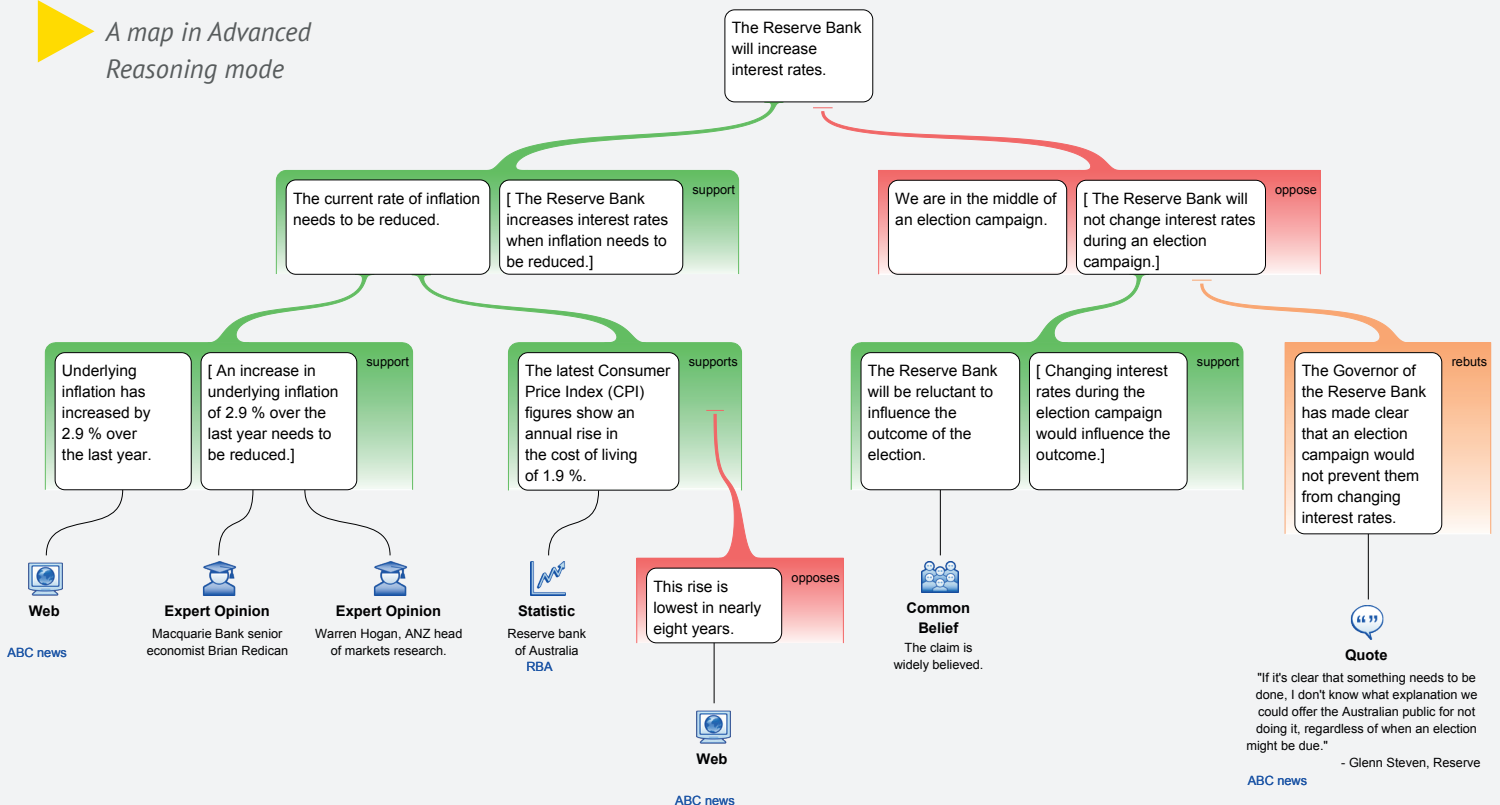
The contention (or position) box is white and located at the top of the map. Reasons supporting the contention are located underneath the position and are outlined in green while objections are red. The orange box signifies a rebuttal, which is an objection to an objection.

Argument mapping goes beyond concept mapping or mind mapping: Rationale® is a tool to develop critical thinking skills by providing a framework for reasoning, evaluation, analysis and communication.

Reasoning map in Rationale®



A map in Advanced Reasoning mode



Advanced reasoning maps include a greater level of analysis in that:

- Greater precision is required in the way each claim is expressed
- Each reason and objection is broken down into the multiple claims that make it up, prompting the student to articulate the assumptions in an argument
- In the evaluation stage advanced reasoning maps enable to distinguish between the truth or acceptability of a claim and the strength or validity of the inference from a set of claims (a reason or objection) to another claim.



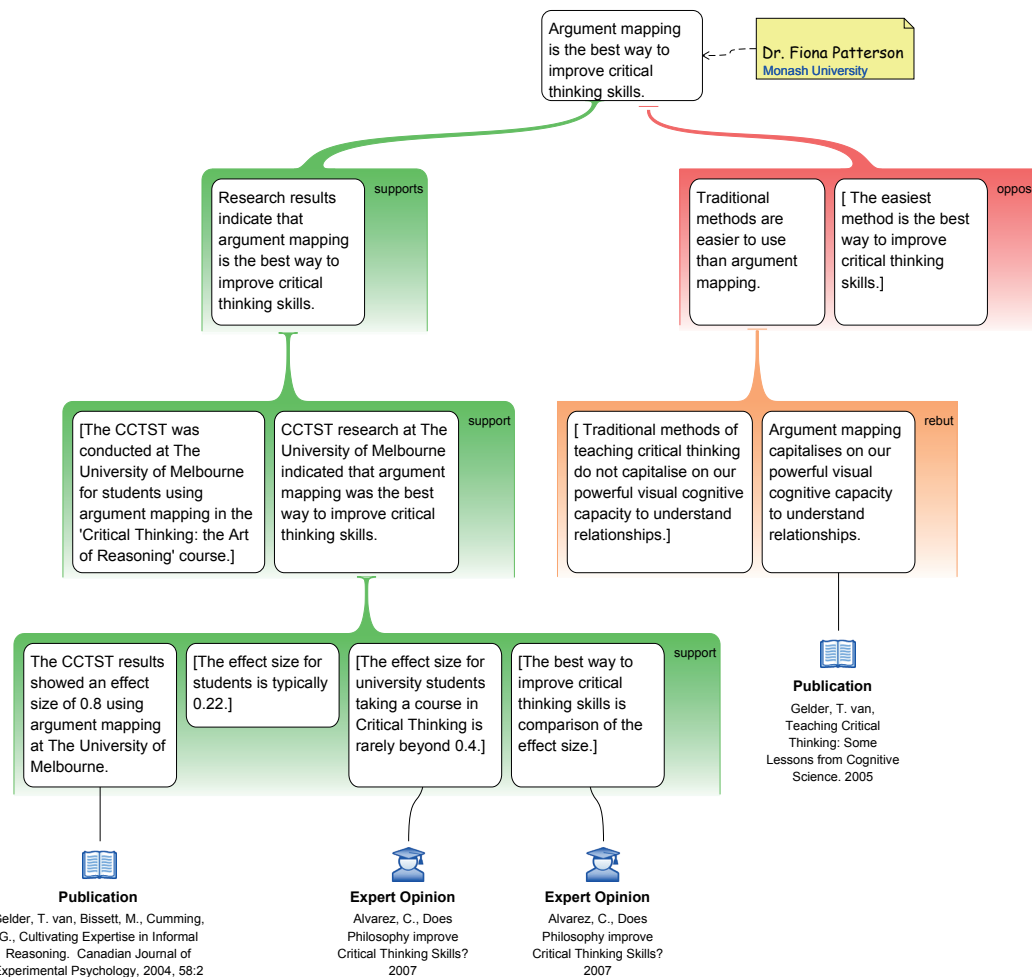
Research behind Rationale®

Rationale® is based on the results of five years of research into critical thinking skills, funded by the Australian Research Council and carried out by the *Reason! Project* at The University of Melbourne. The central question driving this research was, “is there an effective and affordable way to improve students’ critical thinking skills?”

Students were required to practice reasoning using an argument mapping method. This practice was supported by a software package called *Reason!Able*. Students’ critical thinking skills were measured using the

independent and objective California Critical Thinking Skills Test (CCTST).

The results revealed that students using argument mapping showed strong improvement in general critical thinking skills. There was an average 20% improvement during the students’ semester of study. Strong positive results have been reproduced by Rationale® – the improved version of *Reason!Able* – and by other research into argument mapping. More information on research on argument mapping can be found on reasoninglab.com/learn.



Experiences with Rationale®

“Rationale has been a superb tool for my students, and I see real improvement in the structure of their essays after having used it. I have recently introduced my 9th grade Pre-IB English class to the Rationale tools, and they really like the essay planning template. Great for structuring essay plans! I also had them recently use Rationale to plan debates on some current topics for my Argumentation and Persuasion unit.

...Again, the single most helpful aspect about Rationale is how much easier it is, especially for visual learners, to critically think through the structure of their papers, speeches, debate positions, and other communication projects. This is the major step in the writing process that my students tend to gloss over – despite all my attempts at using other visual aids, outlining strategies, etc. There’s something about the dynamic interface, the color-coding and argument evaluation tools, and the ease of the essay planning tool that speeds up and sharpens the thinking process involved in the creative process.”

Michael Andersen (*Columbia River HS, Vancouver; IB, Theory of Knowledge, IB English*):

Great for structuring essay plans!

“..fun to use...a very good tool for students learning rhetoric, debating, logic or composition.”

Larry O’Brien *in his review of Rationale at Knowing.net.*

‘If it is worth anything, in all my years of education I do not think my thought process has improved as quickly and as much as it has in this one semester.’

‘I have absolutely loved my semester in this seminar. It has been one of the most rewarding learning experiences ever. It’s such a different and new way of thinking, but it has helped me immensely and been an applicable science in multiple areas.’

Two students

“Once they start to see this as a normal, natural way to think through their essay plan, the quality of their essays jumps noticeably. Students who were baffled at first start to feel that they really can do this stuff. That’s magic.”

Mark Matcott, *Lilydale High School*

‘Before Rationale, I was only able to lecture my students about the skill of evaluating arguments. Thanks to Rationale, I now have the technology I need to help them actually acquire the skill.’

Gary Comstock, *professor of philosophy at North Carolina State University.*



Skills you learn:

Grouping Ordering and presenting information with clarity

Reasoning Supporting a claim with other claims and sources of information

Structuring Presenting reasoning with clarity and rigour in prose

Analyzing Identifying the logical structure of arguments

Evaluating Telling how strong reasoning is

Deliberating Deciding whether to believe claims based on a thorough assessment of the relevant consideration

Rationale®'s features include:



■ Three map formats to structure ideas

- Grouping maps for brainstorming ideas
- Reasoning maps for structuring arguments
- Advanced reasoning maps to represent assumptions

■ Visual evaluation tools

- Colored representation of the evaluation
- Evidence icons to display source of claims
- Acceptance icons to display accepted or rejected claims

■ Communication tools

- Essay planner to transform reasoning maps into essay structures
- Text and image export features

■ Technical specifications & functionalities

- Online desktop and tablet version
- Available in English, Spanish, French, German and Dutch
- Online map collaboration
- Adding attachments to a map
- Sharing maps for assessment

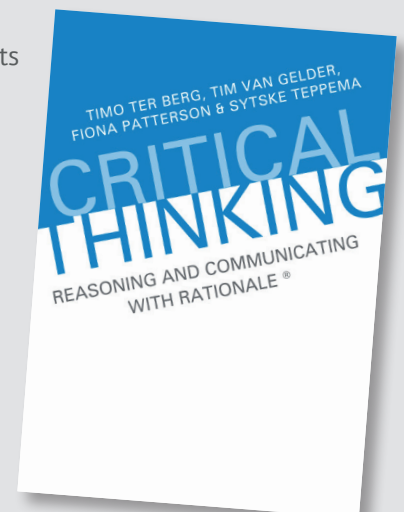
■ Educational resources

- The “*Critical Thinking: Reasoning and Communicating with Rationale*” book.
- Three online tutorials with exercises:
 - Critical Thinking
 - Argument Mapping
 - Reasoning for Knowledge
- Guides and practical supplements
- Rationale® Wiki

+ Resources for lecturers

ReasoningLab provides all educational materials needed to integrate Rationale® into a curriculum or for stand-alone courses or workshops: lecture PowerPoints, exercises with model answers, exams, checklists, rubrics, etc.

Training, professional development programs and webinars can be organized to match your particular educational needs.





Top Reasons to get Rationale®!

Critical thinking: Why, what and how

There's much talk about improving critical thinking skills among students. We know they're highly valued skills, but how do we get them? Indeed, what is critical thinking and how do educators integrate it into the classroom?

To start answering these questions, think about what critical thinking means to your students' development. In ReasoningLab's workshops, teachers emphasize how critical thinking is fundamental to their students' learning process – within the learning environment and beyond. Teachers report that they want their students to be more discerning with information; to consider both sides of an argument; to be logical, rigorous and structured in their communication; to analyze and reflect upon different opinions; to locate a broad selection of evidence and to transfer their skills between subject areas. In short, teachers would like their students to be equipped to take on challenges and make sound decisions to ensure good outcomes.

To aid the complex task of effective thinking, Rationale® has devised a simple yet rigorous path to improve learning outcomes. Rationale® provides different maps to aid information selection, structuring of reasoning and analysis of arguments. There is a web browser, evidence boxes and an evaluation function to ensure students ask questions before they accept claims. If essay writing is not your students' strong point, then the Rationale® essay planner templates will provide them with a path to build their essay, export it to Word and follow instructions to create a well-structured and reasoned essay.

Rationale® is straightforward when integrating critical thinking into the curriculum. There are online exercises and guides to enhance learning and teaching, with engaging activities that promote collaborative peer learning. If you have used other mind or concept mapping tools then Rationale® is the next step for coherent, structured and rigorous thinking.

1

Research shows argument mapping improves critical thinking skills

Better thinking leads to better results

2

Applicable for all stages of learning

Primary, secondary, tertiary

3

Applicable across the curriculum

Essay writing, Language, Legal Studies, Commerce, Science, Politics, Philosophy...

4

Free teacher resources available

All educational materials for a one semester course in Critical Thinking; educator guides on our website

5

Training & PD for teachers available

Webinars, at your school or full PD days

6

Affordable

For individual students: 30 euro's or less for one year.
Reduced prices for class / campus licenses

7

Easy to use application

*Sign up for your
free trial account at
rationaleonline.com!*

Practical Information

What levels of education is Rationale® relevant for?

Rationale® can be used for all levels of education.

What subjects is it used for?

Rationale can be integrated into any subject. Students also find it useful for debates, presentations and moot courts. For map examples look at the map packs and teacher guides in the resources section at <http://www.reasoninglab.com/learn/>.

Who uses Rationale?

Schools, universities and colleges around the world use Rationale. These include private schools such as Geelong Grammar, MLC and Xavier. International Baccalaureate schools such as Wesley College, Korowa, Ivanhoe Grammar, Columbia River HS (Vancouver, US). Universities include University of Melbourne, New York Law School, University of Amsterdam and Princeton University. For a complete list of users, visit: <http://www.reasoninglab.com/users/>.

Licensing & Educational Pricing

You can see individual prices at www.RationaleOnline.com. An individual one year educational license costs 30 euro's for Rationale Basic, 39 euro's for Rationale Extra (includes e-book and collaboration functionality). Prices of class/campus licenses are tailor-made and are considerably lower per student, depending on the number of users.

Pilots

We support lecturers who want to organize pilots with Rationale® in their classes by providing free Rationale® accounts for lecturers and their classes, as well as free webinars.

Need more Information?

Find out more at: www.reasoninglab.com and www.rationaleonline.com. If you have any queries about Rationale® or would like to arrange a free demonstration, contact Timo ter Berg at ReasoningLab on +31 85 8771268 / mobile: +31 6 13152579 / Skype: *ReasoningLab* or send an e-mail to: info@reasoninglab.com.

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