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An argument map (AM) organizes any prose or text inclusive of an inferential signaller (e.g. but, because, however) into a hierarchical representation, with propositions arranged in coloured boxes (i.e. green = support; red = objection) and connected by arrows that further highlight such relations between propositions (van Gelder, 2002; 2003). As such, AMs are designed in such a way that if one proposition is evidence for another, the two will be appropriately juxtaposed (van Gelder 2001). Simply, an AM (see Fig. 1) as distinct from a 'mind-map', is a visual representation of an argument's structured network of reasoning, making it unambiguous and explicit, with no need for attention switching from paragraphto-paragraph or page-to-page in search of reasons and objections to the argument's central claim. Moreover, having available the structure of an argument facilitates logical reasoning, the ready construction of a 'mental image' of the whole argument and the answering of specific questions about the relation between one proposition and others. Thus, AMs remove obstacles to learning regarding the need to simultaneously read the text and mentally visualize the relational structure of the presented argument (e.g. see Dwyer, 2017; Dwyer, Hogan & Stewart, 2010 2011; 2012; 2013).

AMs can be used passively as study aids developed by educators for their students (something I often do in my classes). Research suggests that such use can significantly enhance recall of information within the AM (Dwyer, Hogan & Stewart, 2010; 2013). AMs can also be used as an active learning tool, in which students can develop maps from scratch or add boxes or branches to previously started AMs. In my classes, I often present maps with blank boxes or unfinished threads to talk through with students. I also recommend that they construct AMs at home, in preparation for their continuous assessment essays and exams. Likewise, research suggests that active argument mapping can enhance critical thinking performance (e.g. Butchart et al., 2009; Dwyer, 2017; Dwyer, Hogan & Stewart, 2011; 2012).

For those interested in using argument mapping in the classroom, please consult the referenced research or contact myself at <a href="mailto:cdwyer@ait.ie">cdwyer@ait.ie</a>.

## References

Butchart, S., Bigelow, J., Oppy, G., Korb, K., & Gold, I. (2009). Improving critical thinking using web-based argument mapping exercises with automated feedback. Australasian Journal of Educational Technology, 25, 2, 268-291.

Dwyer, C.P. (2017). *Critical thinking: Conceptual perspectives and practical guidelines*. Cambridge, UK: Cambridge University Press

Dwyer, C.P., Hogan, M.J., & Stewart, I. (2013). An examination of the effects of argument mapping on students' memory and comprehension performance. Thinking Skills & Creativity, 8, 11-24.

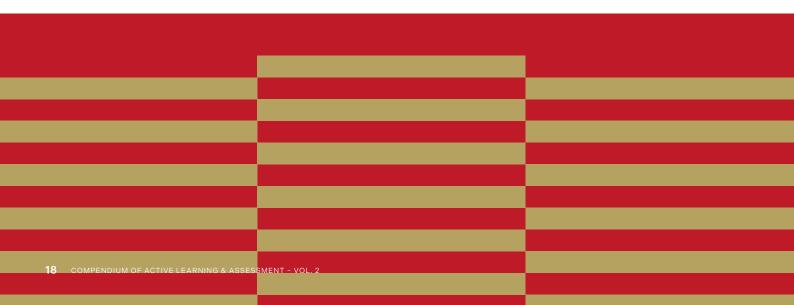
Dwyer, C.P., Hogan, M.J., & Stewart, I. (2012). An evaluation of argument mapping as a method of enhancing critical thinking performance in e-learning environments. Metacognition and Learning, 7, 219-244.

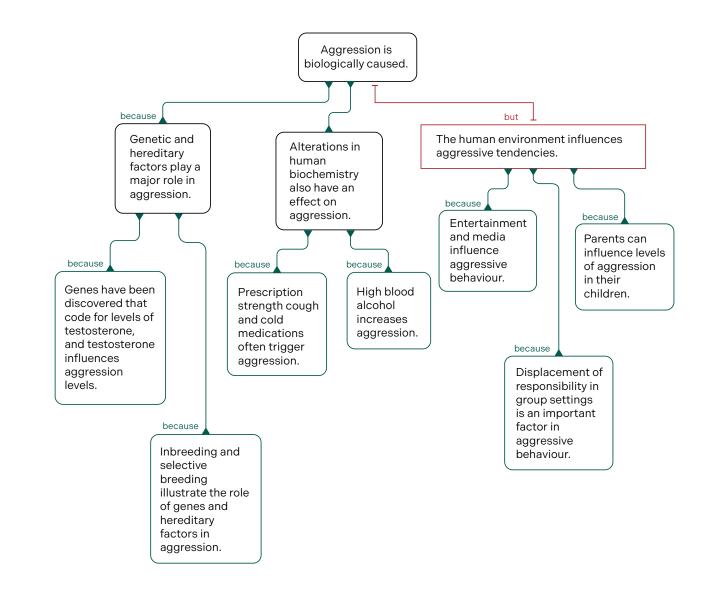
Dwyer, C.P., Hogan, M.J., & Stewart, I. (2011). *The promotion of critical thinking skills through argument mapping*. In C.P. Horvart & J.M. Forte (Eds.), Critical Thinking, 97-122. Nova Science Publishers, New York.

Dwyer, C.P., Hogan, M.J., & Stewart, I. (2010). The evaluation of argument mapping as a learning tool: Comparing the effects of map reading versus text reading on comprehension and recall of arguments. Thinking Skills and Creativity, 5, 1, 16-22.

van Gelder, T. J. (2001). *How to improve critical thinking using educational technology*. In G. Kennedy, M. Keppell, C. McNaught & T. Petrovic (Eds.), Meeting at the Crossroads: Proceedings of the 18th Annual Conference of the Australian Society for Computers in Learning in Tertiary Education, 539–548. Melbourne: Biomedical Multimedia Unit, University of Melbourne.

van Gelder, T.J. (2003). Enhancing deliberation through computer supported argument mapping. In P. A. Kirschner, S. Buckingham-Shum, & C. Carr (Eds.), Visualizing argumentation: Software tools for collaborative & educational sense-making, 97–115, London: Springer-Verlag.





## Fig. 1: An example of an argument map (Dwyer, Hogan & Stewart, 2011)

