Critical thinking: an imperative for higher education

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Making the case

The 21st century has witnessed significant cultural, social and technological advances. The ongoing coronavirus has provided the education sector with many lessons and an opportunity to review and evaluate *what* and *how* we teach. Questions must be raised about the appropriateness of curricula to meet current day needs and prepare students for this brave new world. It has highlighted the importance of acquiring the necessary skills to participate in an everchanging and increasingly complex world (Lucas, 2019)- skills of critical thinking (CT), creativity, metacognition, problem solving and collaboration (Lamb *et al*., 2017). Developing the cognitive skills and thinking dispositions to better comprehend the world must become higher education's new imperative.

What do we mean by critical thinking?

CT is associated with reasoned thinking that provides evidence to justify decisions made. Facione's definition is particularly clear as, *"purposeful, self-regulatory judgment which results in interpretation, analysis, evaluation, and inference, as well as explanation of the evidential, conceptual, methodological, criteriological, or contextual considerations upon which that judgment is based"* (Facione, 1990, p. 2). It is a set of skills and strategies for thinking. It also involves attitudes referred to in the literature as 'dispositions' (Perkins, 1995). Both elements are needed and both together combine to create the essence of a critical thinker.

Four simple questions defining CT:

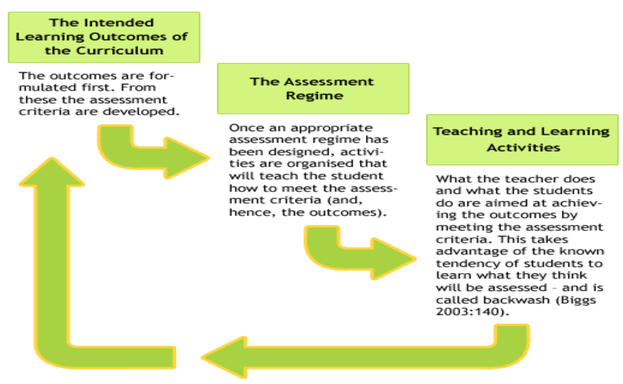
- ❑ Why should I trust this claim?
- ❑ Why does the person making this claim believe it – or want me to believe it?
- ❑ What else has been said, written or reported about this?
- ❑ Do I know enough to answer all of the above questions?

Critical thinking in the context of higher education

Critical thinking is regarded as a "core outcome in higher education" (Lederer, 2007,p. 525). The role of universities has always been to develop independent and critical thinkers and must remain so. The ability of students to think critically is very relevant today. Young people need to be able to discriminate facts from opinions, evaluate and judge the credibility of evidence from all sources such as social media and the phenomenon of "fake news". Thinking critically is considered a desirable outcome of an undergraduate education (Facione *et al*., 2000). In Europe, reforms in science education made the teaching of critical thinking a main aim of undergraduate teaching programmes (Eurydice, 2011). By developing graduates with critical thinking skills, universities enhance innovation in the workplace and society.

Curriculum design and critical thinking

Bigg's model of constructive alignment provides an effective starting point to embed CT in curriculum programmes (Biggs, 2003). The model requires alignment between the three key areas of the curriculum: intended learning outcomes, teaching and learning activities and assessment (Figure 1 below).



Authenticity is key when planning pedagogical approaches. Active learning and real life scenarios. These should include reflective writing activities, cooperative learning tasks, guided questions, problem-based and project-based learning. Methodologies relating to oral and written communication as well as to reading and text analysis, reflection and argumentation, analysis and synthesis should be used. In addition, questioning, evaluation, interpretation, and justification, research, flipped classroom and role playing are also effective (Bezanilla, 2019).

An example of constructive alignment to embed CT in a PGCE Level 7 module in teacher education

Learning Outcomes On completion of this module you will be able to:	Assessment Methods	Teaching/Learning Activities
Synthesise research and policy frameworks related to the substantive topic	Critical review of literature on pupil achievement in schools	Interactive lecture. Guided questions. Analysis of key studies Co-operative learning
Undertake a small-scale classroom enquiry, taking into account ethical considerations. Critically evaluate using the models provided.	Student-led classroom investigation in school Peer assessment	Student discussion groups on research areas. Presentation of research questions
Assemble and critically evaluate data on pupil assessment for a variety of sources	Evaluation of school and national data sets on pupil progress	Case study analysis using 'live ' data
Judge the impact of learning on your professional practice and justify the implications for your future professional development	Professional Development Action Plan Peer-assessed using set criteria	Action Plan presentations Reflection Feedback

To conclude

The ability to think critically is a desirable outcome for higher education. The pandemic has provided an opportunity to review curricula and to prioritise skills and is a time for curriculum rebalancing. By embedding CT in programmes and combined with innovative blended approaches to teaching and learning, we can be assured that our graduates enter the global marketplace more prepared, and our curricular are fit for purpose to serve students, universities and the world of work.

References

Bezanilla, M.J.et al. (2019) Methodologies for teaching-learning critical thinking in higher education: The teacher's view. *Thinking skills and creativity.* Vol. 33, p.1-10.

Biggs. J. (2003) *Teaching for Quality Learning at University. What the Student Does*. 2nd Edition. Buckingham: SRHE/Open University Press

El Soufia, N. & See B.H. (2019) Does explicit teaching of critical thinking improve critical thinking skills of English language learners in higher education? A critical review of causal evidence. *Studies in Educational Evaluation* Vol. 60, pp.140-162

Eurydice (2011) *Science education in Europe: National policies, practices and research.* Brussels: EACEA

Facione, P. A. (1990). *Critical thinking : A statement of expert consensus for purposes of educational assessment and instruction executive summary.* The California Academic Press 1–19

Facione, P .A., Facione N. C., & Giancarlo, C. (2000). The disposition toward critical thinking: Its character, measurement, and relationship to critical thinking skills. *Journal of Informal Logic,* 20(1), 61-84.

Lamb, S., Maire, Q. & Doecke, E (2017) *Key Skills for the 21st Century: An Evidence -based Review* Sydney: Centre for International Research on Education Systems

Lederer, J. M. (2007). Disposition towards critical thinking among occupational therapy students. *American Journal of Occupational Therapy.* Vol.61, pp. 519–526.

Lucas, B. (2019) *Why we need to stop talking about 21st century skills*. University of Winchester: Centre for Strategic Education. Seminar Series, Paper 283

Facione, P. A. (1990). *Critical thinking : A statement of expert consensus for purposes of educational assessment and instruction executive summary.* The California Academic Press 1–19

Perkins, D (1995) *Outsmarting IQ: The Emerging Science of Learnable Intelligence*. New York: The Free Press