

## Characteristics of Deep and Surface Approaches to Learning

This table from Houghton (2004) compares the characteristics and factors that encourage deep and surface approaches to learning. Compiled from Biggs (1999), Entwistle (1988) and Ramsden (1992).

	Deep learning	Surface learning
<b>Definition</b>	Examining new facts and ideas critically, and tying them into existing cognitive structures and making numerous links between ideas.	Accepting new facts and ideas uncritically and attempting to store them as isolated, unconnected, items.
<b>Characteristics</b>	<p>Looking for meaning.</p> <p>Focusing on the central argument or <b>concepts</b> needed to solve a problem.</p> <p>Interacting actively.</p> <p>Distinguishing between argument and evidence.</p> <p>Making connections between different modules.</p> <p>Relating new and previous knowledge.</p> <p>Linking course content to real life.</p>	<p>Relying on rote learning.</p> <p>Focussing on outwards signs and the <b>formulae</b> needed to solve a problem.</p> <p>Receiving information passively. Failing to distinguish principles from examples.</p> <p>Treating parts of modules and programmes as separate.</p> <p>Not recognising new material as building on previous work.</p> <p>Seeing course content simply as material to be learnt for the exam.</p>
<b>Encouraged by students</b>	<p>Being intrinsically curious about the subject.</p> <p>Being determined to do well and mentally engaging when doing academic work.</p> <p>Having the appropriate background knowledge for a sound foundation.</p> <p>Having time to pursue interests, through good time management.</p> <p>Positive experience of education leading to confidence in ability to understand and succeed.</p>	<p>Studying a degree for the qualification and not being interested in the subject.</p> <p>Not focussing on academic areas, but emphasising others (e.g. social, sport).</p> <p>Lacking background knowledge and understanding necessary to understand material.</p> <p>Not enough time / too high a workload.</p> <p>Cynical view of education, believing that factual recall is what is required.</p> <p>High anxiety.</p>
<b>Encouraged by teachers</b>	<p>Showing personal interest in the subject.</p> <p>Bringing out the structure of the subject.</p> <p>Concentrating on and ensuring plenty of time for key concepts.</p> <p>Confronting students' misconceptions.</p> <p>Engaging students in active learning.</p> <p>Using assessments that require thought, and requires ideas to be used together.</p> <p>Relating new material to what students already know and understand.</p> <p>Allowing students to make mistakes without penalty and rewarding effort.</p> <p>Being consistent and fair in assessing declared intended learning outcomes, and hence establishing trust (see Constructive Alignment).</p>	<p>Conveying disinterest or even a negative attitude to the material.</p> <p>Presenting material so that it can be perceived as a series of unrelated facts and ideas.</p> <p>Allowing students to be passive.</p> <p>Assessing for independent facts (short answer questions).</p> <p>Rushing to cover too much material.</p> <p>Emphasizing coverage at the expense of depth.</p> <p>Creating undue anxiety or low expectations of success by discouraging statements or excessive workload.</p> <p>Having a short assessment cycle.</p>

Houghton, W. (2004) *Engineering Subject Centre Guide: Learning and Teaching Theory for Engineering Academics*. Loughborough: HEA Engineering Subject Centre.

Biggs, J. (1999). *Teaching for Quality Learning at University*. SHRE and Open University Press.

Entwistle, N. (1988). *Styles of Learning and Teaching*, David Fulton.

Ramsden, P. (1992). *Learning to Teach in Higher Education*, Routledge.