UNIVERSITY OF LEICESTER

Teaching Approaches Menu.
Including technologies to support them.

About this menu:

- This menu will assist colleagues in identifying different teaching approaches and the technologies that can support those approaches. It supports both individual modules and entire courses, and aligns with the University's Learning and Teaching Strategy.
- The menu covers a number of approaches around the areas of independent learning (page 1), work-related learning (pages 2-3), information-focused learning (page 4), and peer-learning (page 5). The menu lists the benefits of using each approach, along with indicative assessment types, technologies and the benefits of using that technology, as well as links to further information, specific examples and case studies. (NB. this is constant work-in-progress and subject to further revisions and inclusion of additional materials).
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	Approaches to teaching and learning	Benefits	Indicative assessment artefacts	Technology to support and enhance	Benefit of using technology	Further information, examples and case studies
Independent Learning	**Reflection (including Continuing Personal Development)** *Students reflect on practice, experience and their newly developed knowledge and skills*	• Students have time to consider their development, and can identify areas of personal challenge • The ability to reflect on actions and decisions is a necessary skill in many occupation and in professional body requirements • Helps students to develop critical-thinking and writing skills	• Commentary • Critical reflection • Development plan • Portfolio • Reflective essay • Situational analysis (SWOT) • Verbal reflection • Viva	• Audio • Blogs • ePortfolio • Google Sites • Mind maps • Wikis	• Can simplify the incorporation of artefacts in a wide range of media types • Easier to share and repurpose reflections • Allows for on-going review and tutor feedback	**Case studies:** Creating a virtual space for personal development using Blackboard portfolios (UoL) **Further Resources:** • Reflective Learning handout - Jenny Moon, Bournemouth University
	Phased learning (a.k.a. 'Mastery') *Students required to fully understand a concept, skill or technique before moving on to more advanced topics*	• Moving onto more complex topics, making learning more visible to students • Student is encouraged to become more autonomous • Develops students' confidence in their abilities	• Lab reports • Observations • Repeatable (randomised), formative tests	• Blackboard tests • Blogs • ePortfolio • Screencasts • Video • Wikis • Adobe Presenter • Reflect	• Can provide instant feedback on attainment • New material can be released automatically upon reaching a level	**Case Studies** University of York - Flipped classroom: mastery model for computer programming **Further information:** • Mastery learning: Education Endowment Foundation toolkit - EEF (School-focused) • Mastery Learning [slides] - Namita S. Sahare • What is "Mastery Learning"? [Prezi] - Owen Hoegh
	Self-directed learning *Students define and investigate topics of their own choosing*	• Can lead to high levels of active engagement as students pick topics of personal interest • Fosters independent learning and increases diversity of topics, resulting in greater topic coverage among a cohort • Encourages students to develop their critical thinking and research skills	• Case studies • Infographic • Portfolio • Poster • Presentation • Written report	• Blogs • ePortfolio • Wikis	• Helps students take greater ownership of content and method • Allows a wide variety of sources and resources to be used	**Case Studies** **Further resources** • Student-led learning (UoL)

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Work-related Learning	**Simulation** *Real-world situations are investigated using tools and methods as close as possible to those in the workplace*	• Facilitate and encourage practical skill and equipment proficiencies likely to be encountered in practice • Modelling the 'real world' allows better understanding of the relevant concepts • Allows 'safe' exploration of challenging or controversial topics and techniques	• Competency tests • Examination • Modelling • Observation • Reflective writing	• Blogs • Computer-based simulations • Interactive resources and equipment, e.g. monitors, IVI, Sim-man, Sim-baby • Video • Wikis	• Simulations can be quickly restarted • Allows simulated events to be paused and studied in detail	**Case Studies:** Open University Australia – Using wikis for student collaboration UCL – using wikis to make connections in pharmacy **Further resources:** • Using simulation in clinical education - London Deanery • Computer simulations can be as effective as direct observation at teaching students - Ohio State University • A cross-faculty simulation model for authentic learning - Diamond, S., Middleton, A. and Mather, R.
	Problem-based learning (PBL) *Students are challenged to solve real world problems, often those without a single right answer, helping develop critical thinking skills*	• Encourage and enable imaginative and innovative thinking • Provides students with the opportunity to research and evaluate the relative merits of different approaches	• Practical examination • Presentation • Problem solving • Report • Solution	• ePortfolio • Presentation tools • Wikis	• Can more closely model the real world by using the same (or similar) tools	**Case studies:** **Further resources:** • Problem-based learning design: a case study [video] - Bland Tomkinson, University of Manchester • Problem-based learning in Biology with 20 case examples - Peter Ommundsen (relevant beyond Biology) • Problem based learning as part of active learning (UoL) • Problem based learning (UoL)
	Role-play *Students work through scenarios modelled on their intended profession, often taking on a role with views unlike their own*	• Mimic real-world, real-time situations, enabling immediate reflection and feedback • Practice complex or high order skills in a safe and supported environment • Illustrate and consider ethical, moral or legal questions likely to be encountered in employment	• Case studies • Observation • Reflective account	• Audio • Video • Blackboard collaboration tools • Multimedia in Blackboard	• Makes it easier to include external participants • Can replicate real-world situations more closely, e.g. debating around a Blog post • Recorded interactions can be analysed afterwards	**Case studies:** **Further resources:** • How to teach using role-playing - Carleton College • Rehearsing for the real world: Case studies and role-play - Jones & Bartlett Learning • Role play as part of active learning (UoL)

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Work-related Learning (continued)	**Practical or project work** *Students undertake a piece of work to help integrate their learning and make it concrete*	• Provides opportunities for students to use theory to develop practical solutions • Allows students to develop examples of their work which could be included in a portfolio • Students are able to develop and show the depth of their knowledge and creativity	• Demonstration • Lab reports • Observation • Peer review • Portfolio • Presentation • Reflective account	• Audio • ePortfolio • Photos • Video	• Students can use similar tools to those they would in the workplace • Easy to retain intermediate ('draft') versions and review changes	**Case studies:** **Further resources:** • Students as Producers - JISC Inform 37 • Project-based Learning Professional Development Guide – Edutopia • Demonstrating in practical classes (UoL)
	Work-based learning and placements *Students apply their learning in a real workplace and gain practical knowledge and skills*	• Helps students to develop resources for a portfolio of their work • Students can develop useful relationships and contacts within their industry • Opportunities to explore the relationship between theory and practice	• Observations • Reflections • Summative report by placement provider • Written report	• Blogs • ePortfolio • Mobile apps and devices • Mobile learning • Webinars • Social media	• Reduces the sense of isolation some students feel when out of University • Allows easier interactions between geographically separated parties	**Case studies:** **Further resources:** • Work based learning (UoL) • Final year projects in partnership with industry (UoL)

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Information-focused Learning	**Lectures as pre-work (a.k.a. 'Flipped Classroom')** *Information and lectures provided as pre-work, contact time used for more interactive purposes*	• Students are able to engage with materials flexibly and at their own pace • Students come to sessions with a required level of knowledge and understanding • Allows tutors to repurpose time for more engaging teaching approaches	• In-class tests • Peer-reviewed presentation • Practical activities (formative)	• Reflect • Blackboard tests • Blackboard collaboration tools • Electronic Voting Systems (see also Top Hat in Further resources) • Video • Multimedia in Blackboard	• Allows a variety of media to be used • Students can access the information at a time and place to suit themselves	**Case studies:** **Further resources:** • Flipping the classroom (UoL) • What is the Flipped Classroom? (UoL) • The difference between Flipped Learning and the Flipped Classroom • How to Guides on Flipped Learning • The university will soon be providing the Top Hat interactive system to staff and students. **This is a link to the Top Hat help pages.** In-house resources will follow soon.
	Resource-centred or facilitated discussion *Tutors present artefacts and the class undertake self-directed discussion about them. Students might also select the artefact*	• Encourages expression of feelings, values, opinions and beliefs, and sharing of experiences • Presentation skills may be practiced, building confidence and the ability for self-expression • Develops critical evaluation skills	• Demonstrations • Observation • Peer-review • Report	• Reflect • Audio • Blackboard Discussion forums • Multimedia in Blackboard • Photos • Skype • Video	• Discussions can more easily include external parties • Record of discussion can be subsequently analysed	**Case Studies:** University of Leeds – Encouraging engagement through online message boards University of Leicester – Assessed Online Discussion Groups in Biology Education **Further resources:** • Teaching with discussions - Washington University in St. Louis • Learning artifacts in higher education - University of Illinois
	Micro-research (Sheffield Hallam University) *Students given a unique topic to research and later share their findings with the class*	• Development of presentation and/or other communication skills • Used for group work it can develop collaboration skills, but can also develop autonomy, independence and responsibility • Students can develop the learning materials for each other (potentially reusing them in subsequent cohorts)	• Infographic • Pecha Kucha • Poster • Presentation • Report • Student conference	• Audio • Presentation tools • Video • Wikis	• Allows flexibility in presentation method and tools • Encourages use of different media types • Develops skills that will be useful in employment	**Case studies:** Plymouth University - The good, the bad and the wiki: Evaluating student-generated content for collaborative learning (PDF) **Further resources:** • Self-discovery learning - E-Learning Faculty Modules • Micro-research – an approach to teaching and learning (Sheffield Hallam University
	Teacher-directed learning or traditional lecture *Students receive large volumes of information, particularly theoretical information, simultaneously with their peers*	• Time-efficient way of transmitting large amounts of information to large cohorts • Enthusiasm for the subject can be passed on by enthusiastic lecturers • Materials that cannot be shared with students (legally, ethically, morally, physically, etc.) can still be presented to them	• Examination • Report	• Electronic Voting Systems • Presentation tools • Twitter	• Increase engagement during sessions • Encourage interaction during lectures • Identify and clarify misunderstandings as they happen	**Further resources:** • Using Twitter in University Research, Teaching and Impact Studies (LSE)

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Peer Learning	**Critiquing** (Sheffield Hallam University) *Students critique each other's work or that of a third party and provide advice on improvements*	• Helps develop skills in critical thinking, evidencing and evaluation in respect of own and others' work • Supports development of reflective capability • Students receive richer feedback on how to improve their work based on multiple perspectives	• Critical essay • Staged development of artefact with reflection on peer criticism	• Audio • Blackboard discussion forums • Blogs • Video	• Can use a variety of media types • Critiques can take place over an extended period of time • Record of critique and response straightforward to obtain	**Case studies:** Edinburgh University School of Divinity – Engaging learners in critical reflection using blogs (Video) (PDF) University of New South Wales – Using blogs for peer feedback and discussion (YouTube Video) • Creating a culture of critique - David Fawcett • Successful Art class critique - Marvin Bartel (relevant beyond Art) • Collaborative learning/learning with peers - Institute for Writing and Rhetoric, Dartmouth (covers collaborative critiquing of texts)
	Debate *Students are given a fairly controversial topic to research and discuss, developing their understanding*	• Develops high-level communication skills and confidence • Builds skills necessary in employment, e.g. supporting a personal point of view, advocating on behalf of others, or playing 'Devil's Advocate' • Stimulates and engages students by challenging existing beliefs	• Blogs or discussion forum, with position post and related discussion • Observation • Peer-review • Report	• Audio • Blackboard Collaborate • Blackboard discussion forums • Blogs • Skype • Video	• Easy to obtain a record of the discussion • Enables outside parties to be a part of the debate • Allows students to take part regardless of time and location issues	**Case Studies:** Using podcasting (audio recording) for assessment – University of Leicester **Further resources:** • Designing online debates - University of Virginia • Intimate debate technique- National Science Teachers Association (relevant beyond Sciences) • Debate – an approach to teaching and learning – Sheffield Hallam University