



UNSW
A U S T R A L I A

Arts & Social
Sciences

School of Education

**EDST5123: Educational Design for Learning
in Higher Education**

Semester 1, 2018

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IMPORTANT:

For student policies and procedures relating to assessment, attendance and student support, please see website, <https://education.arts.unsw.edu.au/students/courses/course-outlines/>

The School of Education acknowledges the Bedegal and Gadigal people as the traditional custodians of the lands upon which we learn and teach

1. LOCATION

Faculty of Arts and Social Sciences
School of Education
EDST5123 Educational Design for Learning in Higher Education (6 units of credit)
Semester 1, 2017

2. STAFF CONTACT DETAILS

Course Coordinator: Professor Slava Kalyuga
Office Location: Goodsell Building 105
Email: s.kalyuga@unsw.edu.au
Phone: 9385 1985
Availability: By appointment

3. COURSE DETAILS

Course Name	Educational Design for Learning in Higher Education	
Credit Points	6 units of credit (uoc)	
Workload	Includes 150 hours including class contact hours, readings, class preparation, assessment, follow up activities, etc.	
Schedule		
Online	In 2018, this course will be offered in face-to-face mode over four weekend days (9 am to 4 pm): Sun 15 April; Sat 19 May; Sun 20 May; and Sun 27 May. Some preliminary reading will be required prior to the sessions with a brief review (1000 words) as the first assessment item to be submitted by March 30 (5 pm).	Sun 15 April, 9am - 4pm Sat 19 May, 9am - 4pm Sun 20 May, 9am - 4pm Sun 27 May, 9am - 4pm Location -TBA

Summary of Course

In this course we explore approaches and principles underpinning educational design integrating instructional psychology and educational technology. To allow for breadth in educational design, the course is developed to enable participants to investigate the area by drawing from a range of options, which include teaching strategies, course design, assessment, and educational technology. The course will introduce key concepts of instructional psychology and discuss their applications to the design of learning tasks in higher education online environments.

Important Information

Attendance: Students are expected to give priority to university study commitments. Unless specific and formal permission has been granted, failure to attend 80% of classes in a course may result in failure.

The main ways in which the course has changed since last time as a result of student feedback: Due to change of the coordinator and lecturer, the course have been restructured to extend flexibility whilst promoting greater student engagement. Face-to-face sessions will be conducted in a concentrated whole-day format during semester to address students' request to connect face-to-face with others from the cohort so that collegial support can be provided during periods prior to assessment tasks.

Course Learning Outcomes

Upon successful completion of this course you should be able to:

<i>Outcome</i>	<i>Assessment/s</i>
1 Analyse the importance and use of a range of basic instructional psychology concepts in learning, teaching, and instructional design in contemporary education	1
2 Evaluate designs of online learning activities appropriate for a range of teaching contexts using cognitive theories of learning and instruction	2
3 Develop an evidence-supported argument and proposal for designing or redesigning components of a course for use in your own teaching practice	2,3
4 Demonstrate collaborative and independent enquiry and reflective practice	1, 2, 3

Program Learning Outcomes

<i>Capability</i>	<i>Assessment/s</i>
Disciplinary knowledge and practices Students should have acquired specialised disciplinary knowledge and capabilities related to the pedagogy in higher education, and be able to apply these to their teaching approach and practices across a range of higher education contexts.	2, 3
Enquiry-based learning Students should be able to use an analytical scholarly framework to examine their educational practice aimed at improving their effectiveness across these areas.	1, 2
Cognitive skills and critical thinking applicable to teaching in higher education Students should be able to:	2, 3

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- identify, research and analyse complex issues and problems related to curriculum, assessment and pedagogy and propose appropriate and well justified solutions
 - draw from and analyse a range of evidence from different perspectives to enhance their practice.
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4	<p>Communication, adaptive and interactional skills</p> <p>Students should be able to communicate effectively with a range of audiences, and be capable of using independent and collaborative enquiry to work effectively across and within their disciplinary contexts.</p>	1, 2, 3
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5	<p>Global outlook</p> <p>Students should be able to review and analyse the impact of international trends and perspectives in higher education as these may impact upon their local contexts and practices.</p>	3
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4. RATIONALE FOR THE INCLUSION OF CONTENT AND TEACHING APPROACH

This course is intended to develop competence in evidence-based design of learner activities and learning tasks for academic staff with an emphasis on blended and online learning with the use of educational technology.

In the first course of the Graduate Certificate, *'Introduction to University Learning and Teaching'*, participants explored a range of key areas which are central to their teaching role in the university, and considered, in depth, how they might develop their practice to improve student learning across one of these areas. The second course of the Graduate Certificate, *'Student Learning in Higher Education'*, requires a deeper exploration of learning and teaching within a university setting; and of issues and factors which impact upon student learning. Participants are supported in developing a teaching rationale that is underpinned by an understanding of student learning.

In this course we explore key principles underpinning instructional design and alignment between learning outcomes, teaching strategies, and assessment. To allow both for breadth in course design as well as in-depth exploration of key areas, the course allows participants to investigate an area of interest. It does this by drawing from a range of options that include learning tasks, assessment, teaching strategies, design of learning activities, and educational technology. The course will demonstrate strategies and best practice to help students plan, develop and use instructional materials in online environments. Participants will learn how to manage learner mental load when teaching online. The course focuses on developing participants' understanding of effective, sustainable and transferable pedagogies. You will be introduced to contemporary scholarly literature on instructional psychology and technology-enabled design and you will be asked to consider the appropriate place and use of this knowledge in your own teaching context.

The assessments for this course are focused on evaluating your own existing course and proposing changes in light of the concepts you explore in EDST 5123.

5. TEACHING STRATEGIES

The central focus of this course concerns providing a flexible, reflective and personal learning experience for students. The course intends to actively engage students by making their learning experience personally relevant by providing opportunities for them to review their own course design and develop a proposal for making changes that are meaningful and useful for their own teaching practice. The course is designed around the premise that all educators, no matter their discipline area, share a common experience whenever they facilitate learning. Students will have the opportunity to draw upon and share their own relevant experiences and knowledge with peers from a range of disciplines. Students, however, will be asked to relate what they learn to their own existing teaching practices by evaluating and redesigning components of their own course/s.

Further, the course is designed around principles derived from instructional psychology which focuses upon the importance of personal knowledge and experience in the learning process. The structure of the course is intended to encourage participants to reflect upon and draw from their own stories and their reservoir of prior experience. Such critiquing should focus upon their learning contexts and goals as well as their teaching strategies and along with scholarly literature, this can be used to guide discussions and assessments.

6. COURSE CONTENT AND STRUCTURE

The course will be delivered in face-to-face mode over four weekend days (9 am to 4 pm): Sun 15 April; Sat 19 May; Sun 20 May; and Sun 27 May. Some preliminary reading will be required prior to the sessions with a brief review (1000 words) as the first assessment item to be submitted by March 30 (5 pm).

Lecture	Date	Lecture Topic
1	15 April	Introduction to the course. Main characteristics of human cognition.
2	15 April	Knowledge structures and the development of expertise
3	15 April	The importance of aligning online learning with how the human mind works. Instructional approaches to managing learner cognitive load.
4	19 May	Learning by problem solving and its instructional alternatives
5	19 May	Managing cognitive aspects of multimedia learning
6	19 May	Online learning activities. Evaluating and using online resources
7	20 May	Assessment strategies. designing assessments for learning.
8	20 May	Engaging and motivating students Tailoring learning tasks to learner cognitive characteristics and goals.
9	20 May	Evaluating your design: general principles and cognitive guidelines.
10	27 May	Student presentations
11	27 May	Student presentations
12	27 May	Student presentations

7. RESOURCES (most are available on Moodle)

Required Reading (for Assessment task 1)

How People Learn: Brain, Mind, Experience, and School (2000). Washington, DC: National Academy Press <https://www.nap.edu/download/9853#> Available on Moodle (read Chapters 1 and 2; pp. 1-50).

Textbook: There is no set textbook for this course, although the following is most closely related to its content:

Clark, R. C. & Mayer, R. E. (2008). E-learning and the science of instruction. San Francisco, CA: Wiley.

Further Readings

Books:

How People Learn: Brain, Mind, Experience, and School (2000). Washington, DC: National Academy Press <https://www.nap.edu/download/9853#>

Knowing what students know: The science and design of educational assessment. National Research Council's Committee on the Foundations of Assessment. Washington, DC: National Academy Press, 2001. <https://www.nap.edu/download/10019#>

Benassi, V.A., Overson, C.E. & Hakala, C.M. (Eds.). *Applying science of learning in education: Infusing psychological science into the curriculum.* Retrieved from the Society for the Teaching of Psychology web site: <http://teachpsych.org/ebooks/asle2014/index.php>

Clark, R. C., Nguyen, F. & Sweller, J. (2006). Efficiency in learning: Evidence-based guidelines to manage cognitive load. San Francisco, CA: Wiley.

Sweller, J., Ayres, P. & Kalyuga, S. (2011). *Cognitive load theory.* New York: Springer.

Mayer, R. E. (2008). *Learning and Instruction, 2nd edition.* New Jersey: Pearson Ed. (Chapter 1)

Specific **research articles** will be recommended for different lectures. Copies are provided on Moodle:

Kalyuga, S. (2012). Interactive distance education: A cognitive load perspective. *Journal of Computing in Higher Education*, 24, 182-208.

Kalyuga, S., & Singh, A-M. (2016). Rethinking the boundaries of cognitive load theory in complex learning. *Educational Psychology Review*, 28, 831-852.

Kalyuga, S. (2013). Rapid dynamic assessment for learning. In Mok, M. M. C. (Ed.). *Self-directed learning oriented assessment in the Asia-Pacific. Education in the Asia-Pacific Region: Issues, Concerns and Prospects Volume 18* (pp. 43-60) Dordrecht: Springer Netherlands.

Baddeley, A.D. (1992). Working memory. *Science*, 255, 556-559.

Sweller, J., van Merriënboer, J., & Paas, F. (1998). Cognitive architecture and instructional design. *Educational Psychology Review*, 10, 251-296.

Van Merriënboer, J. & Sweller, J. (2005). Cognitive load theory and complex learning: Recent developments and future directions. *Educational Psychology Review*, 17, 147-177.

Ericsson, K. A., & Charness, N. (1994). Expert performance: Its structure and acquisition. *American Psychologist*, 49, 725-747.

- Atkinson, R. K., Derry, S. J., Renkl, A., & Wortham, D. (2000). Learning from examples: Instructional principles from the worked examples research. *Review of Educational Research, 70*, 181-214.
- Renkl, A., Atkinson, R. K., & Große, C. S. (2004). How fading worked solution steps works—A cognitive load perspective. *Instructional Science, 32*, 59-82.
- Mayer, R. E., Heiser, J., & Lonn, S. (2001). Cognitive constraints on multimedia learning: When presenting more material results in less understanding. *Journal of Educational Psychology, 93*, 187-198.
- Moreno, R., & Mayer, R. E. (1999). Cognitive principles of multimedia learning: The role of modality and contiguity. *Journal of Educational Psychology, 91*, 358-368.
- Mayer, R. E., & Johnson, C. I. (2008). Revising the redundancy principle in multimedia learning. *Journal of Educational Psychology, 100*, 380-386.
- Kalyuga, S. (2007). Expertise reversal effect and its implications for learner-tailored instruction. *Educational Psychology Review, 19*, 509-539.
- Lee, C. H. & Kalyuga, S. (2014). Expertise reversal effect and its instructional implications. In V.A. Benassi, C.E. Overson, & C.M. Hakala (Eds.). *Applying science of learning in education: Infusing psychological science into the curriculum (pp. 31-44)*. Retrieved from the Society for the Teaching of Psychology web site: <http://teachpsych.org/ebooks/asle2014/index.php>
- Lee H. S. & Anderson, J. R. (2013). Student learning: What has instruction got to do with it? Annual Review of Psychology.
- Kirschner, P. A., Sweller, J., & Clark, R. E. (2006). Why minimal guidance during instruction does not work: An analysis of the failure of constructivist, discovery, problem-based, experiential, and inquiry-based teaching. *Educational Psychologist, 46*, 75-86.
- van Gog, T., Paas, F., Marcus, N., Ayres, P., & Sweller, J. (2009). The Mirror-Neuron System and Observational Learning: Implications for the Effectiveness of Dynamic Visualizations. *Educational Psychology Review, 21*, 21-30.
- Abeyssekera, L., & Dawson, P. (2014). [Motivation and cognitive load in the flipped classroom: Definition, rationale and a call for research](#). *Higher Education Research & Development, 1-14*. doi: 10.1080/07294360.2014.934336

The following are some examples of journals focusing on higher education and/or educational technology:

- Australasian Journal of Educational Technology;
- British Journal of Educational Technology;
- Computers and Education;
- International Review of Research in Open and Distance Learning;
- Teaching in Higher Education;
- Educational Technology Research and Development;
- Educational Technology and Society;
- The Internet and Higher Education;
- Review of Educational Research;
- International Journal of Technology Enhanced Learning.

8. ASSESSMENT

Assessment Task	Length	Weight	Learning Outcomes Assessed	Graduate Attributes Assessed	Due Date
Task 1 Minor Essay: Human cognition and its educational implications	1,000 words	20%	1, 4	2, 4	March 30 (5 pm)
Task 2 Student presentation of design evaluation	10-minute presentation	30%	2, 3, 4	1, 2, 3, 4	May 27
Task 3 Major Essay on design change	2500 words	50%	3, 4, 5	1, 3, 4, 5	May 31 (5 pm)

Students are required to follow their lecturer's instructions when submitting work for assessment. All assessments must be submitted online via Moodle by 5:00 p.m. Students no longer need to use a cover sheet. Students are required to keep all drafts, original data and other evidence of the authenticity of the work for at least one year after examination/assessment. If an assessment is mislaid, the student is responsible for providing a further copy. Please see Student Policies and Procedures for information regarding submission, extensions, special consideration, late penalties and hurdle requirements, etc.

Assessment Details

Assessment Task 1: Minor Essay (1000 words). Human cognition and its educational implications.

Read the suggested book chapters and write your reflection on the importance of knowledge of human cognition for teaching and learning.

Suggested readings for this assignment:

How People Learn: Brain, Mind, Experience, and School (2000). Washington, DC: National Academy Press <https://www.nap.edu/download/9853#> Available on Moodle (read Chapters 1 and 2; pp. 1-50).

Assessment Task 2: Class presentation: Student Presentation of design evaluation (10 min; using PowerPoint or similar)

Based on the principles and guidelines provided in the course, analyze, review and critique existing instructional design in the area of your teaching interests. Drawing upon your analysis, review and critique as well as concepts explored in the course, and relevant research literature, identify components which may benefit from a redesigned online activity and/or resource. Propose how you

might go about redesigning these components and provide evidence-based arguments for the proposed changes.

A concise summary of the presentation should be provided on the day of presentation (max 300 words)

Assessment Task 3: Major Essay on design change (2500 words)

Considering the changes you proposed in Assessment Task 2, redesign components of your course that you have identified as needing redesign to enhance students' learning experience. You may choose to redesign any number of activities, assessments, and/or resources that would be beneficial for your particular teaching context. However, a minimum of one resource, activity, or assessment should be included.

Drawing upon concepts explored in the course, scholarly literature, and your own reflections, provide a description of, and an accompanying evidence-based argument, for your revised course components (resources, activities, or assessments) including how they have changed from the original components and whether they would be fully online, blended, or face-to-face. Include your justification (based on support from the literature) for selecting the particular techniques or an evidence-based argument for technology *not* being appropriate for the particular components of your course. Your case should build upon the evidence-based argument your framed in Assessment Task 2.

Reference appropriate scholarly literature and frameworks which have either been referred to in the course or which you have found yourself. All references must follow APA 6th Edition guidelines.

Feedback

Assessment Task	Feedback Mechanism	Feedback Date
<i>1: Minor Essay</i>	<i>via Turnitin on Moodle</i>	<i>13 April, 2018</i>
<i>2: Class Presentation</i>	<i>In class discussion</i>	<i>27 May, 2018</i>
<i>3: Major Essay</i>	<i>via Turnitin on Moodle</i>	<i>14 June, 2018</i>

UNSW SCHOOL OF EDUCATION

FEEDBACK SHEET

EDST5123 EDUCATIONAL DESIGN FOR LEARNING IN HIGHER EDUCATION

Student Name:

Student No.:

Assessment Task: *Assessment Task 3*

SPECIFIC CRITERIA	(-) \longrightarrow (+)				
Understanding of the question or issue and the key concepts involved <ul style="list-style-type: none"> Description of redesigned components of your course (activities, assessments, or resources). Explanation of practical considerations. Explanation of an evaluation strategy. 					
Depth of analysis and/or critique in response to the tasks <ul style="list-style-type: none"> Depth of reflective enquiry and critical analysis from multiple perspectives including your own, those of your colleagues through class discussions, and the literature. 					
Familiarity with and relevance of professional and/or research literature used to support response <ul style="list-style-type: none"> Appropriate and effective use of relevant international scholarly literature and how it relates to your local context. 					
Structure and organisation of response <ul style="list-style-type: none"> Appropriateness of overall structure of the response to the task. Clarity and coherence of response to the task. 					
Presentation of response according to appropriate academic and linguistic conventions <ul style="list-style-type: none"> Clarity, consistency and appropriateness of conventions for quoting, citing, paraphrasing, attributing sources of information, and listing references (APA style). Clarity and appropriateness of sentence structure, vocabulary use, spelling, punctuation and word length. 					
GENERAL COMMENTS/RECOMMENDATIONS FOR NEXT TIME					

Lecturer

Date

Recommended: /20 (FL PS CR DN HD)

Weighting: 45%

NB: The ticks in the various boxes are designed to provide feedback to students; they are not given equal weight in determining the recommended grade. Depending on the nature of the assessment task, lecturers may also contextualize and/or amend these specific criteria. **The recommended grade is tentative only, subject to standardisation processes and approval by the School of Education Learning and Teaching Committee.**