COURSE SYLLABUS

Course: Understanding the Digital Generation: Teaching and Learning in the New Digital Landscape

Presenters: Ian Jukes

Hours: 45

Course Overview

Because of digital bombardment and the emergence of the new digital landscape, "digital natives" process information, interact, and communicate in fundamentally different ways than any previous generations. In this course, Ian Jukes introduces neuroscientific and psychological research that explains how the use of technology, including frequent interruptions and shifts in attention, impacts the functions of the brain. These experiences are re-wiring and re-shaping students' cognitive processes. Consequently, in order to adapt, a fundamental shift in teaching is required to prepare teachers and students for the Information Age. Educators will learn to identify and challenge unconscious and outdated assumptions about schools and learning. They will analyze and revise their beliefs about what constitutes knowledge, critical thinking, and problem solving as they adapt their instructional practices and assessment strategies to the requirements of the digitized 21st century. Educators will focus on the eight core learning attributes of their digital learners and the eight core teaching and assessment strategies that appeal to millennial learners. They will learn to develop research-based constructivist models that will enable students to think, explore, and develop their own learning—to succeed not only in high-stakes testing but also in the real world. Finally, educators will learn that informational, technological, and media fluency can and should be taught in a structured manner, embedded at every grade level, in every subject area, the responsibility of every teacher throughout the entire school experience.

Presenters' Bios

Ian Jukes has been a teacher, an administrator, writer, consultant, university instructor, and keynote speaker. He is the director of the InfoSavvy Group, an international consulting group that provides leadership and program development in many areas, including assessment and evaluation, strategic alignment, professional development, change management, and hardware and software acquisition. Jukes has written twelve books, nine educational series, and has had more than 100 articles published in various journals. His most recently published books include *Teaching the Digital Generation: No More Cookie Cutter High Schools*, *Windows on the Future*, and *Net.Savvy: Building Information Literacy for the Classroom*. Jukes is also the publisher and co-editor of the Committed Sardine Blog, which is electronically distributed to more than 90,000 people in over 60 countries. In 2002 he was named one of the top ten educational speakers in America by Consulting Magazine Online.

Objectives

After completing this course, participants will know:

- The effects of exponential technological change on students and educational institutions
- Revised meaning of such terms as knowledge, critical thinking, and problem solving in the 21st century
- The eight core learning attributes of digital learners

- How to modify curriculum and instruction to teach to millennial learners
- The form and functions of digital age learners' "cultural brains"
- Research-based constructivist models for instruction
- Working definitions of informational, technological, and media fluency

Student Learning Outcomes

After completing this course, participants will apply the following skills:

- Redefine in context such terms as knowledge, critical thinking, and problem solving and apply this new understanding to teaching and learning
- Use new strategies to tap into the eight core learning attributes of digital learners
- Create lessons and activities based on a greater understanding of how students' brain development is affected by the culture of the Information Age
- Employ research-based constructivist models in the classroom
- Develop their students' informational, technological, and media fluency

Unit 1: Responding to the Needs of 21st Century Learners: Expert Panel Discussion
Experts in the field of technology in the classroom (Ted Hasselbring, Rushton Hurley, Ian Jukes, Cheryl Lemke, Meg Ormiston, and Ferdi Selim) address such critical questions as what the ideal learning environment should look like today, how such learning environments can build students' expertise, how best to facilitate cooperative learning, and how best to incorporate technology into those tasks. The panel models for the audience the essential task of asking themselves how they can improve as educators in our exponentially changing digital world.

Unit 2: Living on the Future Edge, Part 1
Change is so difficult because our perspectives are controlled by paradigms we don't know we've internalized, presenter Ian Jukes argues. We need to recognize to what degree we do things in education out of habit, without clear and articulated reasons, and without modification as the context changes. Moore's Law, which notes that technology is changing exponentially rather than linearly, underscores the profound changes transpiring in our world, as do photonics. To educate children in this new context, we have to change our archetypes.

Unit 3: Living on the Future Edge, Part 2
Presenter Ian Jukes adds "infowhelm" to his list of trends affecting education—i.e., the burgeoning use of the Internet, biotechnology, and nanotechnology—to consider how major changes in communication and access to knowledge in the digital world affect how students learn, what they learn, and where they learn. All three of these questions beg further questions about how educators can keep up with these transformations, how they can alter curriculum, and how they can be responsible to their students' futures.

Unit 4: Living on the Future Edge, Part 3

The trends of biotechnology and nanotechnology complicate the world's transformation even further, Jukes illustrates. The skills our students need are highly sophisticated and will only become exponentially more so. Both the individual and the institution must change to prepare students for an imminent world we can barely imagine. Jukes asks the course's participants to commit themselves to the transformation. Change is extremely difficult, he acknowledges, and can only occur when we challenge the paradigms that inform our practice.

Unit 5: Understanding the Digital Generation, Part 1

Changes in technology have literally changed students' minds: they think differently from previous generations', are physically and chemically different, and have different wants and needs. Digital bombardment has created what Jukes calls the "cultural brain" which is hyperlinked and neuroplastic. Students today have learning styles marked by preference for multimedia, parallel processing, and multitasking. They prefer processing pictures, sounds, color, and video before text; prefer to network simultaneously with others; and prefer instant feedback and immediate rewards. They prefer learning that's relevant, active, instantly useful, and fun. Jukes' fundamental message: teachers need to make profound adjustments to their teaching styles to accommodate these preferences.

Unit 6: Understanding the Digital Generation, Part 2

21st century students are masters of 21st century technology. Nonetheless, by and large, education does not capitalize on this fluency in cutting edge tools and techniques. As Jukes illustrates, there is a serious gap between traditional styles of instruction, learning, and assessment and the digital learning styles of today's students. Here, he outlines eight easy to follow steps that educators need to take in order to ensure their ability to effectively teach the new digital generation.

Unit 7: Education in the Age of Disruptive Innovation

Technological innovation is part and parcel of US life. From the invention of the cotton gin, to the development of the Internet, much of the country's wealth and power has come from its ability to find ways to do things better. Here, presenter Ian Jukes explores how like the flapping of the wings of a butterfly in the Amazon, the most simple technological advances can set off the most profound societal changes—and innovation can indeed become "disruptive."

Unit 8: Teaching for Tomorrow

Too often, "teaching 21st century learning skills" translates into "teaching students technology"–e.g., instructing them in Excel or PowerPoint. Jukes argues that teaching 21st century learning skills, or teaching for tomorrow, instead is about revamping traditional instructional styles in order to make them more appropriate for the technological demands of the 21st century.

Unit 9: Article: "Authentic Learning for the 21st Century: An Overview"
Participants read "Authentic Learning for the 21st Century: An Overview," which explores how to use authentic projects—or projects with real-world significance—to develop students' 21st century skills. They respond to the reflection questions that follow.

Unit 10: Article: "21st Century Learners—and Their Approaches to Learning"
Participants read "21st Century Learners – and Their Approaches to Learning," an article that argues why and how 21st century learning environments need to change to help students achieve 21st century skills. They respond to the reflection questions that follow..

Unit 11: Article: "EduGames—Video Games, Virtual Worlds and Education—An Overview"
Participants read "EduGames—Video Games, Virtual Worlds and Education—An Overview," which explores types of technological games available to classroom teachers to expand students' skills. They respond to the reflection questions that follow.

Methods of Instruction

- Videos with PowerPoint presentations (teacher workshops and additional resources)
- Text (units based on required reading)
- Reflection questions (open-ended questions at intervals throughout the videos where educators are asked to reflect on the course content, their own practice, and their intentions for their practice)
- Quizzes (selected-response quizzes to assess understanding of the video presentations)

Plagiarism Policy

KDS recognizes plagiarism as a serious academic offense. Plagiarism is the passing off of someone else's work as one's own and includes failing to cite sources for others' ideas, copying material from books or the Internet (including lesson plans and rubrics), and handing in work written by someone other than the participant. Plagiarism will result in a failing grade and may have additional consequences. For more information about plagiarism and guidelines for appropriate citation, consult plagiarism.org.

Passing Requirements:

In order to complete the requirements of the course, the participant must complete all course work. We do not award partial credit.

- Quizzes 40% of total grade
- Reflection Questions 60% of total grade

KDS Self-Assessment Rubric:

	Distinguished	Proficient	Basic	Unsatisfactory
Quizzes	100% Correct	80% Correct	60% Correct	0-40% Correct

	Distinguished	Proficient	Basic	Unsatisfactory
Reflection Questions	Participant provides rich detail from the content of the course in his or her responses Participant makes his or her responses to the questions personally meaningful	Participant includes appropriate content from the course in his or her responses Participant makes thoughtful comments in direct response to the questions	Participant includes some content from the course, usually appropriate, in his or her responses Participant answers the questions directly, not always fully	Participant includes no content from the course in his or her responses Participant does not address the questions posed