 Millennials in the classroom
best practices to promote students' engagement and participation, using interactive teaching tools

CAAA, June 1-3, 2017
Marta Samokishyn & Sandy Herveiux
Some housekeeping information

GOOGLE SLIDES
Presentation slides and handouts will be available in the Google drive:
https://goo.gl/AIN5Gk

USE OF TECHNOLOGY
Some exercises will require the use of computers and/or mobile phones

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Who we are

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 Agenda for today

- Introduction & workshop objectives
- Millennials in the classroom:
  - Classroom in the digital era
  - Characteristics of Millennials
  - Implication for education
- Break (20-30 minutes)
- Interactive teaching tools:
  - Visual tools
  - Non-static presentation tools
  - Interactive tools
- Teaching tools and learning objectives
Introduce yourself

- Who are you?
- If you could be any superhero and have superpowers, which one would you like to have and why?
- What do you like most about teaching?
Workshop Objectives

- Understand millennials: reflect on the variety of educational needs of the students and understand the dynamics millennials bring to the classroom;

- Address their needs: find and practice strategies to address these needs effectively through interactive teaching tools;

- Measure the effect: explore the effect of these tools on your assigned learning objectives and outcomes;
1. Classroom in the digital era

Statement of a problem
What is your biggest challenge?
Present-day classroom challenges
Six years ago, for the first time, the number of “things” connected to the Internet surpassed the number of people. Yet we are still at the beginning of this technology trend. Experts estimate that, as of this year, there will be 25 billion connected devices, and by 2020, 50 billion.

7,507,326,527

Current world population
To put these numbers into perspective:

- 50 Billion connected devices projected for 2020
- 25 Billion connected devices in 2015
- 7.503 Billion current world population
“Digital revolution is far more significant than the invention of writing or even of printing”

Douglas Engelbart, inventor, Internet pioneer
Important implications

Curriculum development

Assessment methods

Teaching methodology

Assignments structure & delivery

Classroom environment

Learning outcomes

Development of critical thinking skills
2. Understanding Millennials

Information-seeking behaviours & other characteristics
Who are the Millennials?

Google Generation

Digital natives

Generation Y

Generation Next
Describe a Millennial student in one word or phrase.
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<tbody>
<tr>
<td>Formative experiences</td>
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<td></td>
<td></td>
<td>Economic downturn</td>
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<td></td>
<td>Second World War</td>
<td>Past War boom</td>
<td>End of Cold War</td>
<td>9/11 terrorist attacks</td>
<td>Global warming,</td>
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</table>
|                                     | Rationing            | "Swinging Sixties"       | Fall of Berlin Wall      | PlayStation              | Global f
cure,                      |
|                                     | Fixed gender roles   | Apollo Moon landings     | Reagan / Gorbachev       | Social media             | Mobile devices,               |
|                                     | Rock 'n Roll         | Youth culture            | Thatchers                | Invasion of Iraq         | Energy crisis,                |
|                                     | Nuclear families      | Woodstock                | Live Aid                 | Reality TV               | Arab Spring,                  |
|                                     | Defined gender roles | Family orientated        | Introduction of first PC | Google/Earth             | Produce own media,            |
|                                     | — particularly for women | Rise of the teenage | Early mobile technology | Glastonbury              | Cloud computing,              |
|                                     |                      |                          | Latch-key kids           |                          | Wiki media                    |
| Percentage in U.K. workforce*       | 3%                   | 33%                      | 35%                      | 29%                      | Currently employed in part-time jobs or new apprenticeships |
| Aspiration                          | Home ownership       | Job security             | Work-life balance        | Freedom and flexibility  | Security and stability        |
|                                     |                      |                          |                          |                          | "Techno"holics* — entirely dependent on IT, limited grasp of alternatives |
| Attitude toward technology          | Largely disengaged   | Early information technology (IT) adaptors | Digital Immigrants       | Digital Natives          | Career multiskillers — will move seamlessly between organisations and "pop-up" businesses |
| Attitude toward career              | Jobs are for life    | Organisational — careers are defined by employers | Early "portfolio" careers — loyal to profession, not necessarily to employer | Digital entrepreneurs — work "with" organisations "not for" |
| Signature product                   | Automoble            | Television               | Personal Computer        | Tablet/Smart Phone       | Google glass, graphene, nano-computing, 3-D printing, driverless cars |
| Communication media                 | Formal letter         | Telephone                | E-mail and text message  | Text or social media     | Hand-held (or integrated into clothing) communication devices |
| Communication preference            | Face-to-face          | Face-to-face ideally, but telephone or e-mail if required | Text messaging or e-mail | Online and mobile (text messaging) | Face-time |
| Preference when making financial decisions | Face-to-face meetings | Face-to-face ideally, but increasingly will go online | Online — would prefer face-to-face if time permitting | Face-to-face | Solutions will be digitally crowd-sourced |

*Percentages are approximate at the time of publication.
For further information on Millennials, see Adam Conover “Millennials do not exist” and Simon Sinek “Millennials in the Workplace”
Most under-appreciated generation
What does it mean for education?
Digital natives theory

- Developed by Prensky in early 2000s and is based on three basic assumptions;
- Also is cross-related with the theory of digital residents vs. digital visitors
Due to the digital technologies there is a fundamental schism between “old ways of consuming information and new ones”
Digital natives cannot learn in the same way as previous generations, since they “think and process information fundamentally differently from their predecessors” (Prensky 1)
“Pedagogy must respond with fundamental changes both to teaching content and methodology: gamification, random access, speed of information”
Profile of the Millennial student

Based on Jukes and Dosaj, 2006; Chelliah & Clarke, 2006; Prensky, 2010; Prensky, 2001a; Prensky, 2001b; Ashling, 2008; Eshet-Alkalai, 2004; Rowlands et al., 2008.
<table>
<thead>
<tr>
<th></th>
<th>Digital natives</th>
<th>Digital immigrants</th>
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| Connectivity: “anytime and anywhere” | Fast-paced learners  
Preference for multi-tasking and parallel processing | In-person connections are more important  
Linear approach to learning  
Prefer single tasking |

Learning profile
Preference with regards to technology

<table>
<thead>
<tr>
<th>Digital natives</th>
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</thead>
<tbody>
<tr>
<td>Prefer mobile and voice technologies and web 2.0</td>
<td>Pragmatic in their approach to technology</td>
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## Information needs

<table>
<thead>
<tr>
<th>Digital natives</th>
<th>Digital immigrants</th>
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</thead>
<tbody>
<tr>
<td>Vast amount of information in variety of different formats very quickly</td>
<td>Linear approach to data searching</td>
</tr>
<tr>
<td>Looking for answers with no particular regard to the type of sources</td>
<td>Type and format of the resources are still very important</td>
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## Expectation in education

<table>
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<tr>
<th>Digital natives</th>
<th>Digital immigrants</th>
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| Expect web supported “richer, Inspiring learning experience”  
Focus on relevant, fun and instantly useful learning  
Appreciate experiential, interactive and authentic learning | Prefer to follow the curriculum guide and linear, logical and sequential approach to information |
<table>
<thead>
<tr>
<th>Digital natives</th>
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<tbody>
<tr>
<td>Library is seen as a “virtual digital environment”</td>
<td>Rely mostly on library print collection</td>
</tr>
<tr>
<td>24/7 instant access is very important</td>
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<tr>
<td>Digital natives</td>
<td>Digital immigrants</td>
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<tr>
<td>Prefer two-way communication, using social media, video channels (YouTube, Periscope)</td>
<td>Traditional reading and writing communication methods</td>
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<td>Sense of community</td>
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<table>
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<th>Digital immigrants</th>
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<tr>
<td>“Strong sense of online communities of interest, linked in their own web space”</td>
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<tr>
<td>“Function best when networked”</td>
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<tr>
<td>Rely heavily on the advice of their peers</td>
<td>Prefer traditional in-person communities</td>
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<tr>
<td></td>
<td>Rely heavily on the advice of the authority figure, rather than peers</td>
</tr>
<tr>
<td>Digital natives</td>
<td>Digital immigrants</td>
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</tr>
<tr>
<td>Might exhibit lack of critical thinking and overconfidence</td>
<td>Can feel intimidated by assignments that require technology use; Rely on the tools that are not relevant or can’t provide the depth of information needed</td>
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“Millennials focus on relevant, entertaining and instantly useful learning and expect this from their formal education”

Rowlands et al., 2008
Overconfidence bias research study
Overconfidence bias

Do you believe that overconfidence bias is a common characteristic of Millennials?

- Yes: 69%
- No: 31%

Poll locked. Responses not accepted.
Research study: age of the participants

- 18-29
- 30-39
- 40-49
- 50 or older
Perceived confidence in several categories
Assessment

Find it hard to answer if they found irrelevant information while searching: 55%

Learned new information in the workshops: 90%

Rated their confidence in retrieving information in electronic formats above 7/10 prior to workshop: 65%

Rated their ability to recognize prejudice of bias above 7/10 prior to workshop: 47%

Average grade: 6.4/10
Overconfidence bias
Strategies to meet the students where they are
TPACK: Technological Pedagogical Content Knowledge
TPACK is a framework that teachers can use to help them identify knowledge they might need to focus on to be able to teach effectively with technology.

To help remember TPACK as the Pedagogical Content Knowledge (PCK) is a framework that teachers can use to help them identify knowledge they might need to focus on to be able to teach effectively with technology.

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Strategy #1

Using a variety of tools to engage students in an active learning process with many different hands-on activities and in-class interactions will facilitate students’ overall success (Chekkiah and Clarke, 2011);
Strategy #2

Using mobile technologies by integrating them in the classroom has proven to be beneficial for the learning process;
Using technology increased students’ level of satisfaction with the workshops and creates positive experiences for future library interactions;
Strategy #4

Actively engaging students by responding to diverse learning styles provides a welcoming classroom environment and facilitates topic understanding.
3. Interactive Teaching Tools

Examples and Demonstrations of Tools
Non-static presentation tool

**Powtoon**
- Enables you to create short animations to present content to students
- Engages students’ attention and understanding of the topic
- Interactive and visual way to explain assignments or concepts
- Colorful and visually stimulating videos and presentations
Infographic tool

Piktochart
- Create interesting visuals and infographics
- Enables you to present information in a different way
- Template based
- Useful to create academic posters
Non-static presentation tool

**Prezi**
- Non-linear presentation tool
- Appeals to visual learners
- Helps to explain basic concepts in a creative and interesting way
- Engages students’ non-linear thinking
Non-static presentation tool

Emaze

- Appeals to visual learners
- Helps to explain basic concepts in a creative and interesting way
- Cloud-based
- Functions on all devices
- Can be integrated into PowerPoint presentations
Interactive tool

**Self-grading quizzes with Google Forms**
- Promotes students’ engagement and generates opinion on the studied material
- Excellent for individual as well as group quizzes
- Allows to assign point values to questions and use for self-evaluation
Interactive tool

Polls with Poll Everywhere
- Excellent way to collect data anonymously
- Allows creative use of mobile technologies
- Engages students’ creative thinking and facilitates classroom discussions
**Interactive tool**

**iClicker**

- Engage students by making them use their own devices as clickers
- Track attendance with GPS
- Excellent way to track and increase participation
- Facilitates the creation of quizzes
Non-static presentation tool

**MindMeister**
- Helps to demonstrate relationships between concepts
- Easy use of multimedia, such as videos, images as the nodes
- Excellent way to engage students in concept mapping exercises
Integration tool

**Scribd**
- Upload documents to Scribd website
- Embed them into your Learning Management System, Libguide or website
4. Teaching Tools and Learning Objectives

Implementing Tools to Suit Your Objectives
Learning Objectives and Teaching Tools

How to Align your Objectives with the Tools Available?

○ Think about your objectives, at what level should students be engaged?
○ Use Bloom’s Taxonomy to write out clear and concise objectives
○ Consider which content and examples best fit your objectives
○ Which tools would best convey this content?
○ How will I assess their level of engagement?
Bloom’s Taxonomy

1- Knowledge
Define, repeat, record, list, recall, name, relate, underline.

2- Comprehension
Translate, restate, discuss, describe, recognize, explain, express, identify, locate, report, review, tell.

3- Application
Interpret, apply, employ, use, demonstrate, dramatize, practice, illustrate, operate, schedule, shop, sketch.

4- Analysis
Distinguish, analyze, differentiate, appraise, calculate, experiment, test, compare, contrast, criticise, debate, question.

5- Synthesis
Compose, plan, propose, design, formulate, arrange, assemble, collect, create, organize, prepare, manage.

6- Evaluation
Judge, appraise, evaluate, rate, compare, value, revise, select, choose, assess, estimate, measure.

<table>
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<tr>
<th><strong>Objective</strong></th>
<th><strong>Content</strong></th>
<th><strong>Tool</strong></th>
<th><strong>Assessment</strong></th>
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<tbody>
<tr>
<td>Write out each individual objective using the verbs from Bloom’s taxonomy.</td>
<td>Identify the content that you want to share with your students.</td>
<td>Select the tool that is most appropriate to convey the content and will help students meet the objective.</td>
<td>How will you measure the impact of the tool on your students and their learning?</td>
</tr>
<tr>
<td>Objective</td>
<td>Content</td>
<td>Tool</td>
<td>Assessment</td>
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<td>Apply the different steps of an audit.</td>
<td>List of steps: document request, plan, etc...</td>
<td>Prezi</td>
<td>Self-grading quiz</td>
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</tbody>
</table>
Exercise
Use the provided handout to build your own lesson plan.
Thank you!

Any questions?

Please fill out a feedback form at https://goo.gl/1Lw8LL
5. Bibliography and Resources
Some Further Reading