TRENDS IN TECHNOLOGY
□ http://www.youtube.com/watch?v=6Cf7IL_eZ38

□ http://www.zdnet.com/techvisualizer
The “Classroom Flip” Model

J. Wesley Baker (2000)
Ameritech Faculty Development Technology Program
FLIPPED CLASSROOM

The Traditional Classroom
Teacher's Role: Sage on the Stage

LECTURE TODAY
Homework
Reading and questions due tomorrow

The Flipped Classroom
Teacher's Role: Guide on the Side

ACTIVITY TODAY
WATCH lecture online tonight!
## Comparison Traditional to Flipped

<table>
<thead>
<tr>
<th>Activity</th>
<th>Time</th>
<th>Activity</th>
<th>Time</th>
</tr>
</thead>
<tbody>
<tr>
<td>Warm-up Activity</td>
<td>5 min</td>
<td>Warm-up Activity</td>
<td>5 min</td>
</tr>
<tr>
<td>Go over previous lecture</td>
<td>20 min</td>
<td>Q&amp;A time on video/reading task</td>
<td>10 min</td>
</tr>
<tr>
<td>Lecture new content</td>
<td>30-45 min</td>
<td>Guided and independent practice and/or lab activity</td>
<td>75 min</td>
</tr>
<tr>
<td>Guided and independent practice and/or lab activity</td>
<td>20-23 min</td>
<td>Guided and independent practice and/or lab activity</td>
<td>75 min</td>
</tr>
</tbody>
</table>
Find an approach that would make it possible for teacher to move from sage to guide.

Reduce the amount of time spent in class on lecturing, opening up class time for the use of active learning strategies.
Focus more on understanding and application than on recall of facts, while not sacrificing presentation of the factual base.

Provide students with more control over their own learning.
Goals of the Classroom Flip Model

- Give students a greater sense of their own responsibility for their learning.
- Provide students with more opportunities to learn from their peers.
Move lecture material out of the classroom through online delivery.

Extend conversation outside of class through threaded discussion

Move “homework” into the classroom where the teacher can serve as “guide.”

Use opened up time for discussion and practice.
Trends in Technology (2014)

- Bring Your Own Device (BYOD)
- Social Media as a Teaching and Learning Tool
- Open Educational Resources (OER)
- Learning Analytics
Trends in Technology (continued)

- Internet
- Mobile Computing and M-Commerce
- Wireless networks
- Pervasive Computing
- Smart Devices
Trends in Technology (continued)

- The Network Computer
- Optical Networks
- Storage Area Networks
- Intranets & Extranets
- The Internet
General Developments and Trends

- The cost-performance advantage of computers over manual labor will increase.
- Graphical and other user-friendly interfaces will dominate PCs.
- Storage capacity will increase dramatically.
- Data warehouses will store ever-increasing amounts of information.
Cloud Computing
Pros and Cons

Cloud Computing

- Scale and Cost
- Security
- Choice and Agility
- Lock-in
- Encapsulated Change Management
- Lack of Control
- Reliability
- Next-Generation Architectures
- Multimedia use, including virtual reality, will increase significantly.
- Intelligent system, especially artificial neural computing and expert systems, will increase in importance and be embedded in other systems.
- The use of intelligent agents will make computer ‘smarter’.
- There is a push for open architecture
Object-oriented programming and document management will be widely accepted.

Artificial intelligence systems are moving to learning-management systems.

Computers will be increasingly compact and more portable.

There is proliferation of embedded technologies (especially intelligent ones).

The use of plug-and-play software will increase.
Networked Computing Developments and Trends

- Optical computing will increase network capacity and speed, facilitating the use of the Internet.
- Storage networks will become popular.
- Mobile and wireless applications will become a major component of IT.
- Home computing will be integrated with the telephone, television, and other electronic services to create smart appliances.
- The use of the Internet will grow, and it will change the way we live, work and learn.
- Cooperate portals will connects companies with their employees, business partners and the public.
- Intranet will be dominating network systems in most organizations.
- E-commerce over the intranet will grow rapidly, changing the manner in which business is conducted.
Intelligent software agents will roam through database and networks, conducting time-consuming tasks for their masters.

Interpersonal transmission will grow (one-to-one, one-to-many, many-to-many).

More transactions among organizations will be major contributors toward improved national security and counter-terrorism efforts.
Other technology trend in education?

- RFID (radio frequency identification) - tracking
- GRID - combination of computer resources from multiple administrative domains for a common goal of large task
- QR Code
What about the old stuff?

- Thin-client server – recycle old PCs in the school
Hands-on Activity

- For T&L
- For Internal Communication
- For Production and Authoring
- For Storage
For Teaching and Learning

- Learning Management System (LMS)
  - Learnboost
  - Edmodo.com

- Participation
  - Socrative
  - Poll Everywhere
  - Padlet - padlet.com

- Concept Mapping
  - MindMap (Cth: MindMaple)
For Internal Communication

- Collaboration
  - VoiceThread - https://voicethread.com/
  - MindMapping
  - Etherpad – shared whiteboard (Cth. : PiratePad – Piratepad.net)
  - Collaborize Classroom
For Production and Authoring

- Google
  - Drive > Create > *Choose*
  - Pendekkan URL ➔ bitly.com
For Storage - Cloud

- Google
- Dropbox
http://www.scoop.it/t/web-2-0-learning-teaching
ARE WE READY TO COPE?
Generation Gap

- Traditionalists – born prior to 1946
  - loyal
  - Gone through war

- Baby Boomers – born 1946-1964
  - Older-Workaholics and economic achievers, younger – value family
  - Hoping for change
  - Train them too much and they will leave

  - Like to be educated and informed, no major enduring hard economical times
  - Technologically savvy
  - Resourceful and hardworking, but life after 5 p.m.

  - Live, breath, shop, link up on the web. Well informed
The Net Generation

- Highly deviced
- Highly networked
- Highly interactive
- Highly social
Our Roles

• Administrators and teacher leaders have to take personal responsibility for understanding changes in technology integration

• Time and resources should be committed to professional growth in technology integration in instruction

• Professional Learning Communities (PLCs), communication, and collaboration are essential components

• Educational leaders are researchers and implementers of new technologies
1. In order to enable a technology-enhanced school infrastructure, give easy but appropriate access to data for students, educators, and parents/guardians.

2. Communicate with parents and community members through digital-age tools such as Podcasts, Twitter accounts, email listservs, wiki websites, screencasts, or automatic call systems.

3. Use school’s own cloudware to develop and share policies, technology plans, or project work.
Tips for school leaders

4. Increase the efficiency of school’s operations with web-based applications for tracking and revising purchase orders, grants, and other financial reports.

5. Use data-based decision-making to improve student achievement through technologies that will assist you in disaggregating data on the national test, in differentiating instruction according to individual scores on tests, and in giving teachers data for planning intervention strategies while instruction occurs.
6. Be aware of the MIS changes that encourage to adopt electronic learning records, to improve financial data transparency, and to fund wireless connectivity to portable devices for students.

7. Improve your operational efficiency and security - reducing the number of servers and purchasing Software as a Service (SaaS) and Web applications from cloud-based data centers.
Tips for school leaders

8. Implement a technology-powered management information system (MIS) to input, access, and organize school financial data.

9. Communicate with parents through newer grade and student behavior management programs in order for them to access their children’s grades, behavioral issues, and school notices about upcoming events.

10. Keep updated on the latest educational technology research.
I DON’T BELIEVE THAT YOU CAN DO TODAY’S JOB WITH YESTERDAY’S METHODS AND BE IN BUSINESS TOMORROW
“I fear not the man who has practiced 10,000 kicks once, but I fear the man who has practiced one kick 10,000 times.”

Bruce Lee