Bloom's Digital Taxonomy

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SNAPSHOT
1.3 billion internet users in 2008
3 billion
the number of Flickr photos in November 2008
13 hours of video are uploaded to YouTube every minute

(in September 2008)
16.4m
podcasts downloaded internationally in March 2008

7.7m
podcasts downloaded by UK users in March 2008

17.2m
unique web users each week in the UK

33.2m
unique web users each week internationally

12.5m
hours of streaming radio listened to by UK listeners in March 2008

17.2m
hours of streaming radio listened to by international listeners in March 2008

1.1m
users per week of the iPlayer in March 2008
$1.5 billion
is estimated to be spent on virtual goods each year.
In 2006 38% of teens used their phones to listen to music. In 2007 71% do.

Habbo's Global Youth Survey, which surveyed 58,486 teens in 31 countries
5 billion
The number of songs served via iTunes by June 19th 2008
9.4 million

number of people in the UK listening to internet radio each week (Rajar)
$310 million
sales of GTA IV on its opening day April 29th 2008

$500 million
sales of GTA IV during its first week

$100 million
estimated cost of developing the game

100,000
number of photographs taken on location for the game

1000
number of people involved in developing the game
28% of an office worker’s day is spent dealing with email and other messages (Basex)
70
number of spam emails received by the average web user each day

(McAfee)
Britons spend an average of 7hrs 9mins per day using communications services in their leisure time.

Ofcom | Times Online
Based on Prensky Digital Natives and Digital Immigrants
The average number of hours spent online by 1000 UK teenagers in a study by Cyber Sentinel.

- YouTube: 2 hours 2 mins
- Social networks: upto 9 hours
- Cosmetic surgery: 1 hour 8 mins
- Health information: 1 hour 22 mins
- Downloading and listening to music: 1 hour 40 mins
- Dieting: 1 hour 35 mins
- Work research: 3 hours 10 mins
- Soft porn: 1 hour 40 mins
Different kinds of experiences lead to different brain structures.

-Dr. Bruce D. Berry, Baylor College of Medicine
1950's classrooms
Benjamin Bloom

Bloom's Domains

Figure 1-4. Dr. Bloom’s hierarchical taxonomy for the cognitive domain (knowledge) includes six educational objective levels.
Bloom's Digital Taxonomy

Lower Order Thinking Skills:
- Knowledge
- Comprehension
- Application
- Analysis
- Synthesis
- Evaluation

Higher Order Thinking Skills:
- Remembering
- Understanding
- Applying
- Analysing
- Evaluating
- Creating
Bloom's Revised Taxonomy

Lower Order Thinking Skills (LOTS)

- **Remembering** - Recognising, listing, describing, identifying, retrieving, naming, locating, finding
- **Understanding** - Interpreting, Summarising, inferring, paraphrasing, classifying, comparing, explaining, exemplifying
- **Applying** - Implementing, carrying out, using, executing
- **Analysing** - Comparing, organising, deconstructing, Attributing, outlining, finding, structuring, integrating
- **Evaluating** - Checking, hypothesising, critiquing, Experimenting, judging, testing, Detecting, Monitoring
- **Creating** - designing, constructing, planning, producing, inventing, devising, making

Higher Order Thinking Skills (HOTS)
Bloom's Digital Taxonomy

**Creating**
- Verbs:
  - Designing, constructing, planning, producing, inventing, devising, making, programming, filming, animating, blogging, video blogging, mixing, re-mixing, wiki-ing, publishing, videocasting, podcasting, directing, broadcasting.

**Evaluating**
- Verbs:
  - Checking, hypothesising, critiquing, experimenting, judging, testing, detecting, monitoring, blog commenting, reviewing, posting, moderating, collaborating, networking, refactoring, testing.

**Analysing**
- Verbs:
  - Comparing, organising, deconstructing, attributing, outlining, finding, structuring, integrating, mashing, linking, validating, reverse engineering, cracking.

**Applying**
- Verbs:
  - Implementing, carrying out, using, executing, running, loading, playing, operating, hacking, uploading, sharing, editing.

**Understanding**
- Verbs:
  - Interpreting, summarising, inferring, paraphrasing, classifying, comparing, explaining, exemplifying, advanced searches, boolean searches, blog journaling, twittering, cattgorising, tagging, commenting, annotating, subscribing.

**Remembering**
- Verbs:
  - Recognising, listing, describing, identifying, retrieving, naming, locating, finding, bullet pointing, highlighting, bookmarking, social networking, social bookmarking, favouriting/local bookmarking, searching, googling.
Anderson and Krathwohl's taxonomy – Remembering

Remembering:
Retrieving, recalling or recognising knowledge from memory. Remembering is when memory is used to produce definitions, facts or lists, or recite or retrieve material.

Keywords:
- Recognising
- Listing
- Describing
- Identifying
- Retrieving
- Naming
- Locating
- Finding
Remembering - Digital

Recognising, Listing, Describing, Identifying, Retrieving, Naming, Locating, Finding,

Bullet pointing, Highlighting, Bookmarking, Social Networking Social bookmarking
Favouriting/local bookmarking, Searching, Googling
Getting information off the Internet is like taking a drink from a fire hydrant.

Mitchell Kapor
Anderson and Krathwohl's taxonomy – Understanding

Understanding: Constructing meaning from different types of function be they written or graphic.

Keywords:
- Interpreting
- Summarising
- Inferring
- Paraphrasing
- Classifying
- Comparing
- Explaining
- Exemplifying
Understanding - Digital

Interpreting, Summarising, Inferring, Paraphrasing, Classifying, Comparing, Explaining, Exemplifying

Advanced searches, Boolean searches, Blog journalling, Twittering, Categorising and tagging, Commenting, Annotating, Subscribing

Subscribing using RSS

Using Wikis
Overall, 53% of online users are consuming content outside of a publisher’s site - through the use of widgets, RSS readers, social networks and mobile devices.

Richard MacManus describing a Universal McCann report
“Computing is not about computing anymore. It’s about living.”

*Being Digital* (1995) by Nicholas Negroponte (p.6)
Anderson and Krathwohl's taxonomy – Applying

**Applying:** Carrying out or using a procedure through executing or implementing. Applying related and refers to situations where learned material is used through products like models, presentation, interviews and simulations.

**Keywords:**
- Carrying out
- Using
- Executing
- Implementing
- Showing
- Exhibiting
Applying - Digital

Implementing, carrying out, using, executing, Implementing, showing, exhibiting

Running, loading, playing, operating, hacking, uploading, sharing, editing
“Rather than focusing on specific technologies or specific problems, we need to equip students with those concepts that are common to all problems, all technologies, all skills, ranging from workplace engineering to ethics to entrepreneurship.”

The Jobs Revolution: Changing How America Works
Anderson and Krathwohl's taxonomy – Analysing

- **Analysing:** Breaking material or concepts into parts, determining how the parts relate or interrelate to one another or to an overall structure or purpose. Mental actions include differentiating, organizing and attributing as well as being able to distinguish between components.

- Comparing
- Organising
- Deconstructing
- Attributing
- Outlining
- Finding,
- Structuring
- Integrating
Analysing - Digital

Comparing, Organising, Deconstructing, Attributing, Outlining, Finding, Structuring, Integrating,

Mashing, Linking, Reverse-engineering, Cracking, Mind-mapping.
Disease approaching!

HealthMap is a mash-up using Google Maps, Google News, World Health Organization data and user-generated content to track new disease outbreaks, region by region.
Anderson and Krathwohl's taxonomy – Evaluating

Evaluating: Making judgements based on criteria and standards through checking and critiquing

Keywords:
- Checking
- Hypothesising
- Critiquing
- Experimenting
- Judging
- Testing
- Detecting
- Monitoring
Evaluating - Digital

Checking, Hypothesising, Critiquing, Experimenting, Judging, Testing, Detecting, Monitoring

(Blogs/vlog) commenting, Reviewing, Posting, Moderating, Collaborating, Networking, Reflecting, (Alpha & beta) testing, Validating.
“reason leads to conclusions; emotion leads to action”

Saatchi & Saatchi
Evaluating – Validating Information

- This article is a frequent target of vandals. Wikipedia will like to remind everyone editing this article of our vandalism policies and what Wikipedia is not.
- The factual accuracy of this article or section is disputed. Please see the relevant discussion on the talk page.
- This section may require cleanup to meet Wikipedia's quality standards. Please improve this article if you can (May 2008).
- This article appears to contradict another article: [[Article]]. Please see discussion on the talk page.
- This article appears to contradict itself. Please see the discussion on the talk page.
- The neutrality of this article is disputed. Please see the discussion on the talk page.
Anderson and Krathwohl's taxonomy – Creating

Creating: Putting the elements together to form a coherent or functional whole; reorganising elements into a new pattern or structure through generating, planning or producing.

Keywords:
- Designing
- Constructing
- Planning
- Producing
- Inventing
- Devising
- Making
You go on YouTube for example and you post a video clip...within hours you’ll have hundreds, perhaps thousands of people doing variations of your act....It used to be that if you were in the realm of popular culture, you would be inspired by an earlier performance, by an earlier style, The Rolling Stones and The Beatles, for example. But that wouldn’t really be incumbent upon you to create an original style, a trademark style. That’s what you were known by. Now the important thing is to copy. It’s a copy culture.

Lee Siegel, author of Against the Machine: Being Human in the Age of the Electronic Mob, in an interview with BBC Click
Creating - Digital

Designing, Constructing, Planning, Inventing, Devising, Making,

Programming, Filming, Animating, Blogging, Video blogging, Mixing, Remixing, Wiki-ing, Publishing, Videocasting, Podcasting, Directing/producing, Building or compiling mash-ups
3.7 million
number of people in the UK who listen to a podcast each week, double the amount from 2007. 79% listen on their computer; 66% listen on their MP3 player.
“Great, creative storytelling”

Michael Eisner suggesting the missing part of the internet is imaginative storytelling that exploits interactivity and community. (AdAge, 2008)
“The future has already arrived. It's just not evenly distributed yet.”

William Gibson
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