

Bloom's Digital Taxonomy

Andrew Churches
Kristin School

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

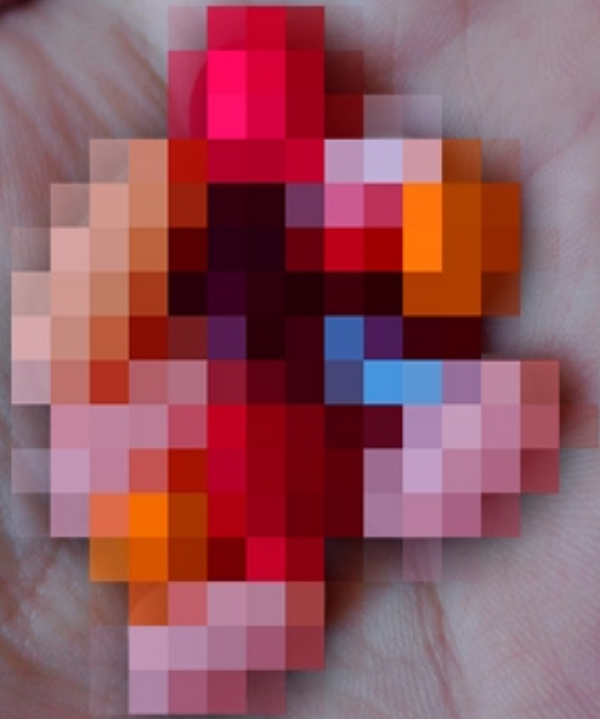
1.1m

users per week of the iPlayer in March 2008

BBC
online

\$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

A close-up, low-angle shot of a microphone grille, showing the fine mesh and the circular openings. The lighting is dramatic, with strong highlights and deep shadows, creating a textured, almost abstract appearance. The background is a soft, out-of-focus blue-grey.

9.4million

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

A futuristic, dark blue corridor with a soldier in the foreground and a vehicle in the distance. The corridor is illuminated by blue lights, and the walls are made of dark, metallic panels. The soldier is wearing a green and black suit and is holding a rifle. The vehicle is a small, dark, cylindrical object with a glowing light on top.

'Halo 3' cost **\$30 million** to develop

It made **\$300 million** in 1 week

Source: Wikipedia

28%

of an office worker's day is spent dealing with email and other messages (BaseX)



70

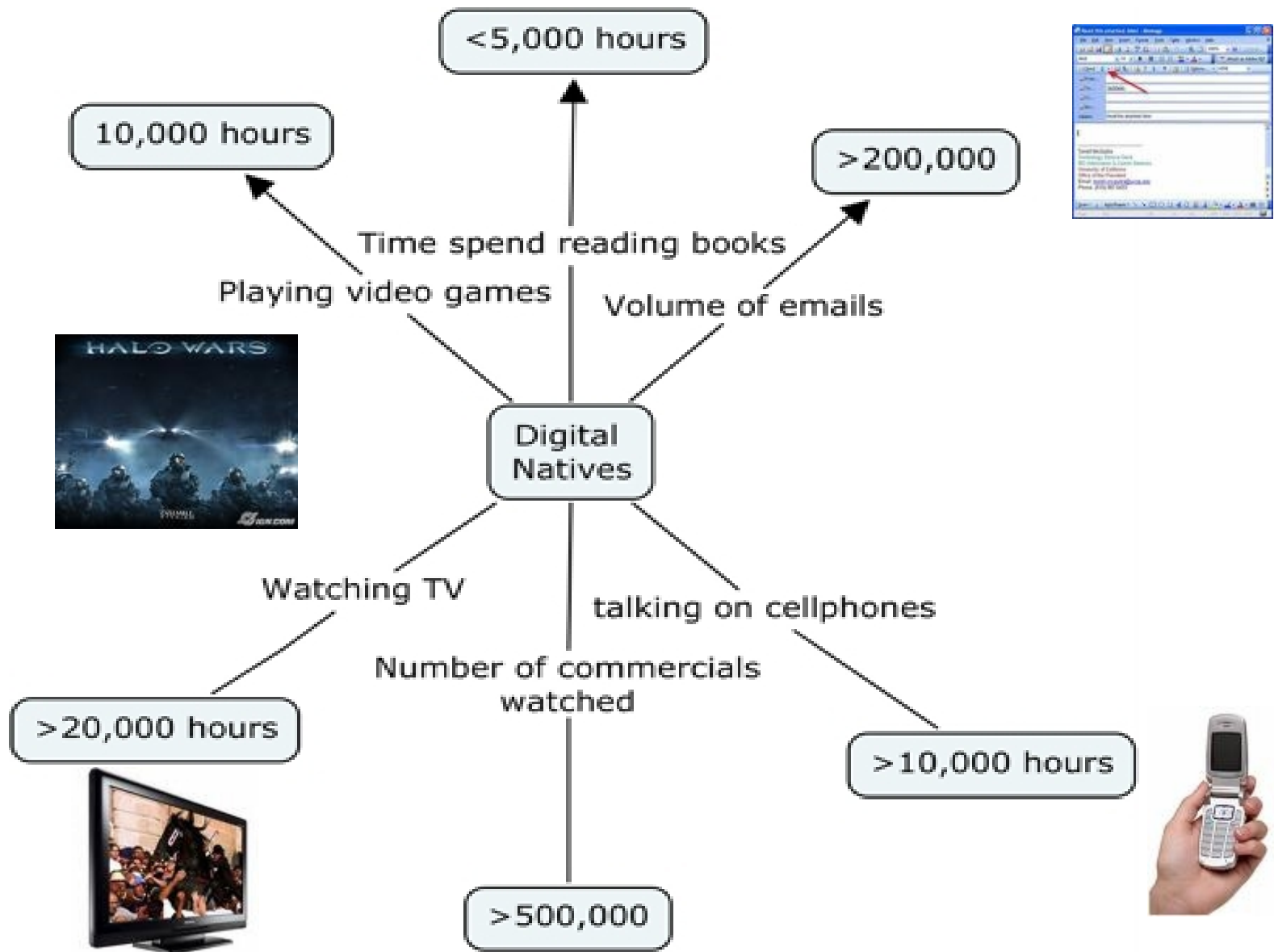
number of spam emails received by the average web user each day

(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



SCREEN TIME

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



Kristin

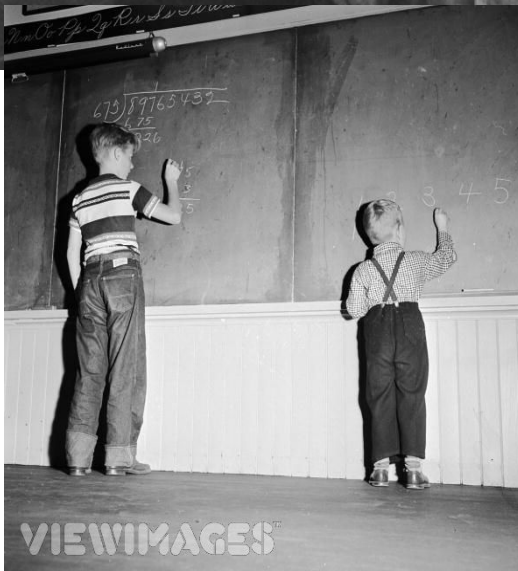
KINDERGARTEN TO SENIOR SCHOOL

International Baccalaureate 

1950's



classrooms



Benjamin Bloom



Bloom's Domains

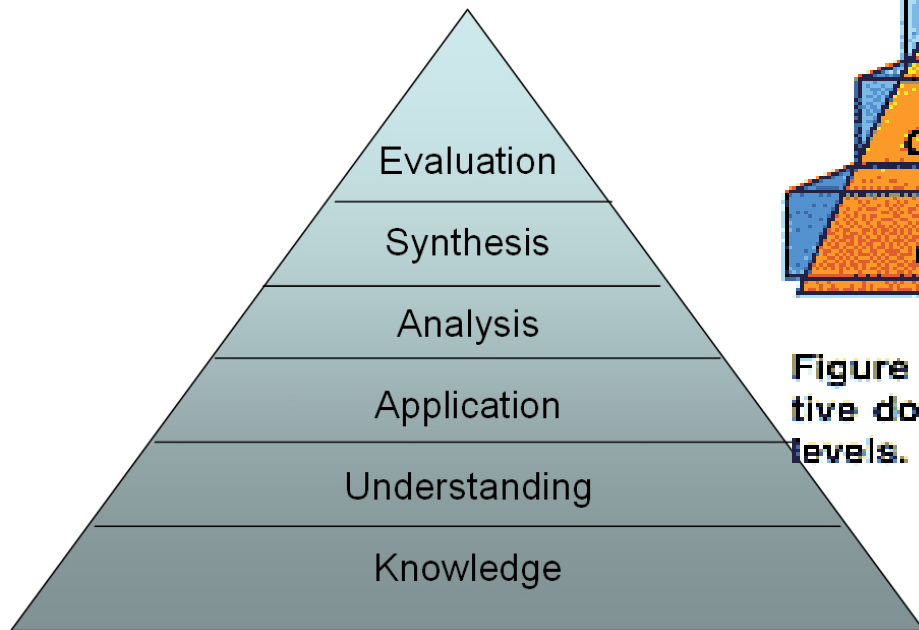
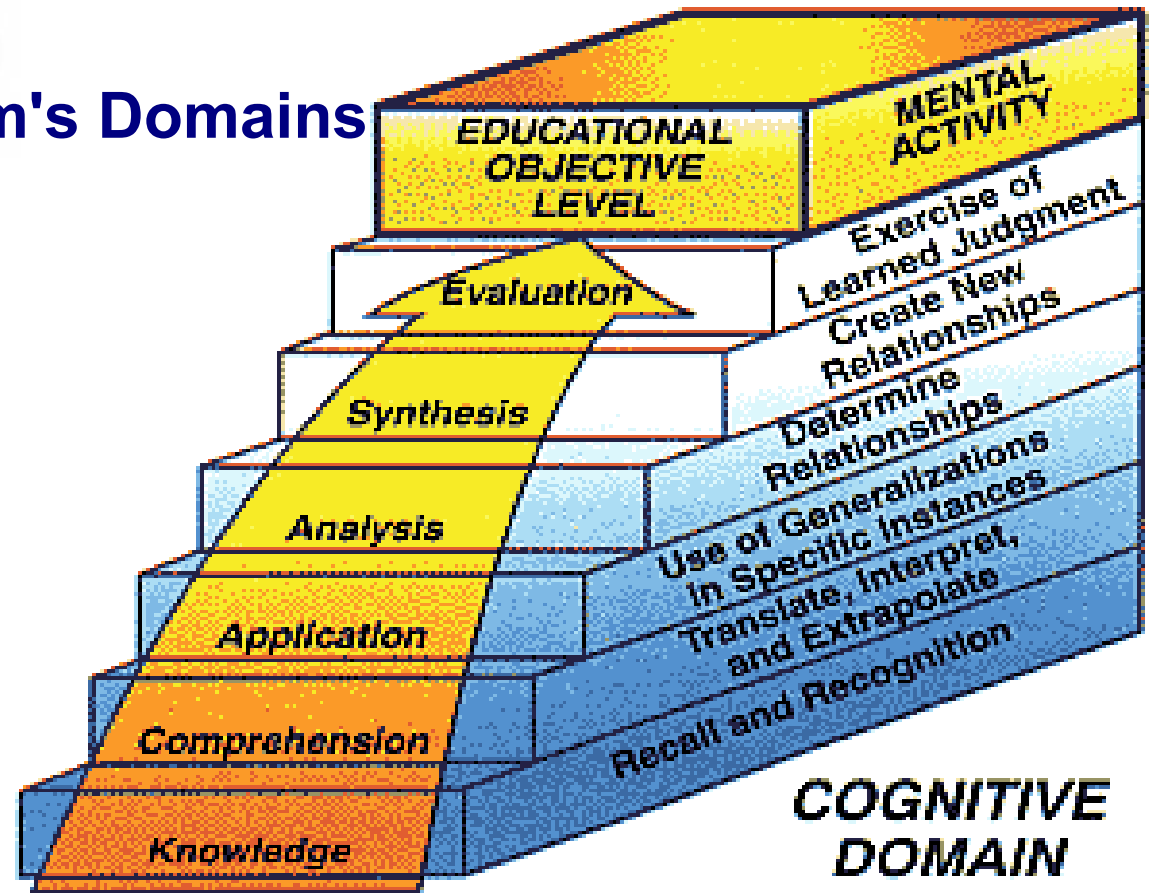
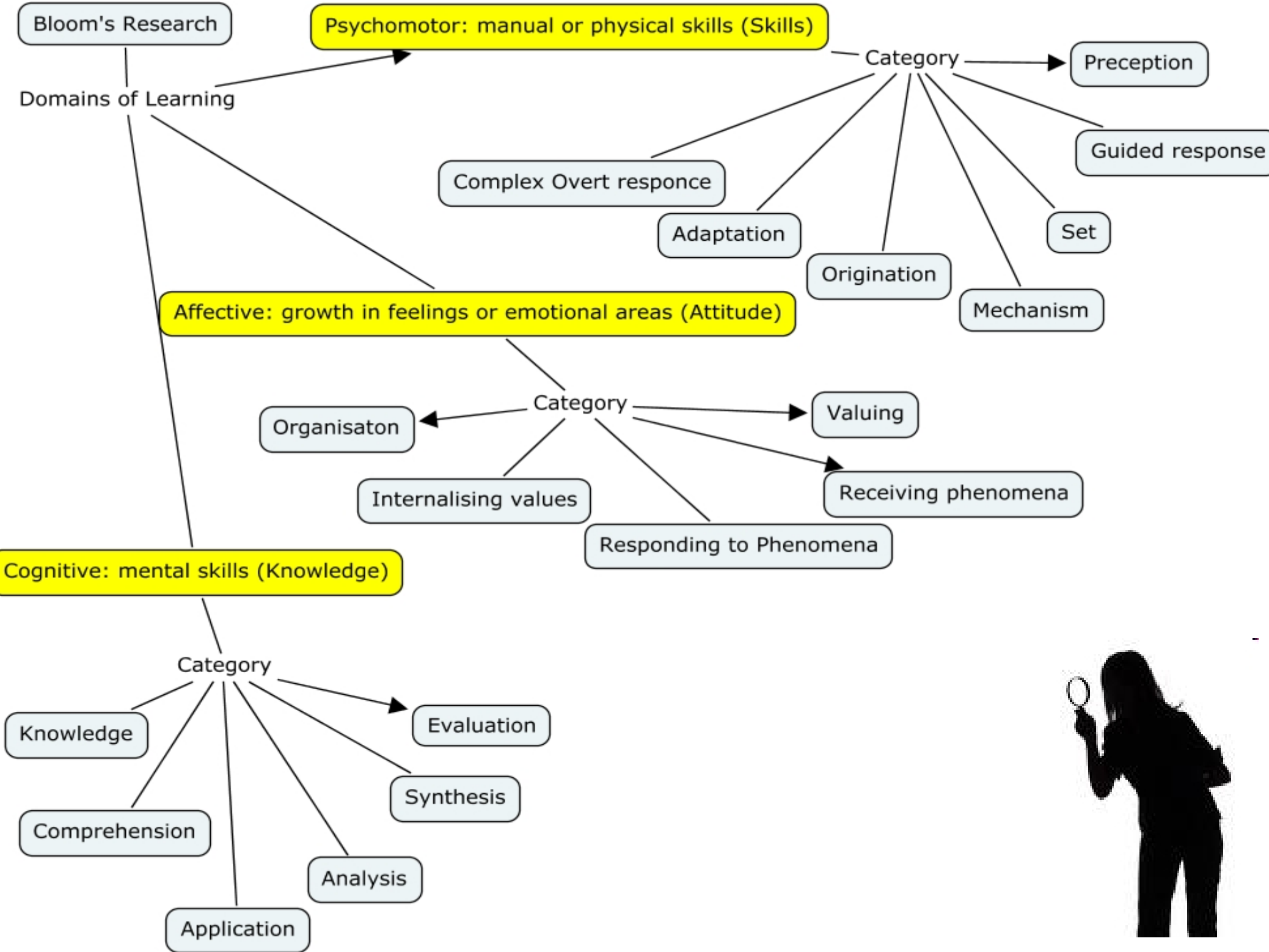


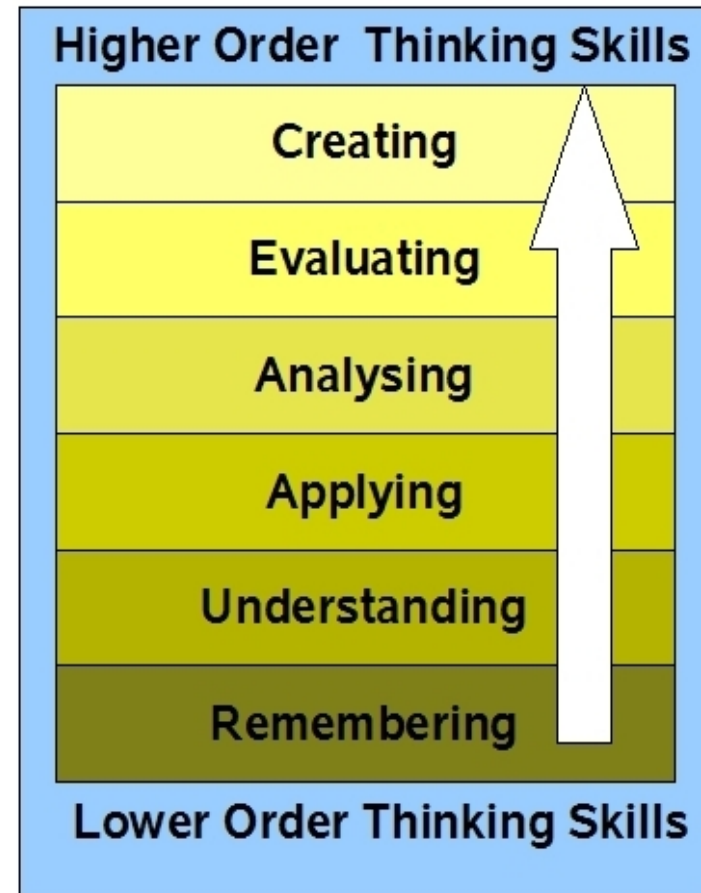
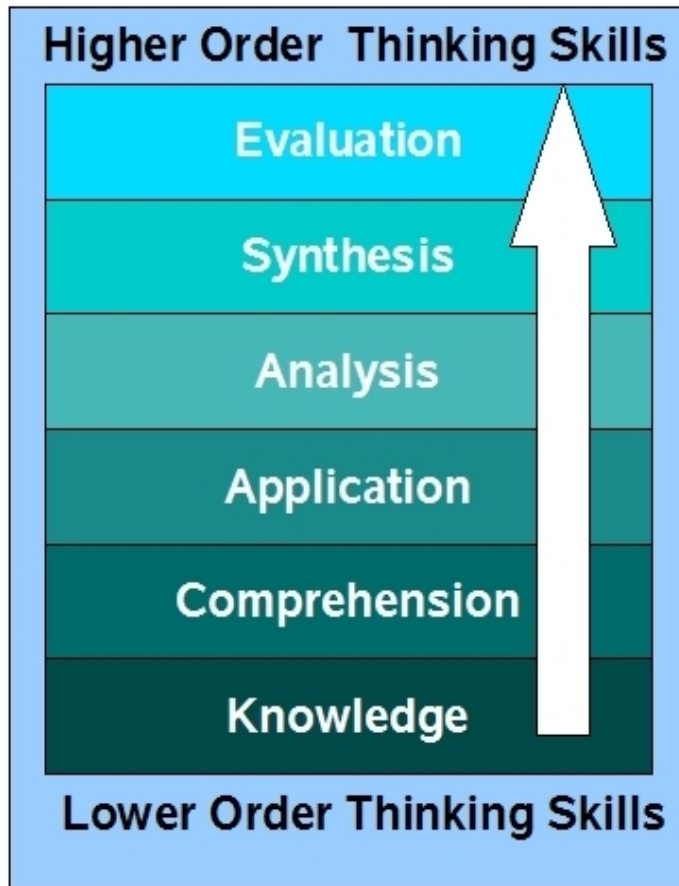
Figure 1-4. Dr. Bloom's hierarchical taxonomy for the cognitive domain (knowledge) includes six educational objective levels.

Kristin

KINDERGARTEN TO SENIOR SCHOOL



Bloom's Digital Taxonomy



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

Key Terms

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, catergorising, 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.

Collaboration

Collaborating

Moderating

Negotiating

Debating

Commenting

Net meeting

skyping

video conferencing

Reviewing

Questioning

Commenting

Posting

Networking

Contributing

Chatting

emailing

twittering

texting

instant messaging



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



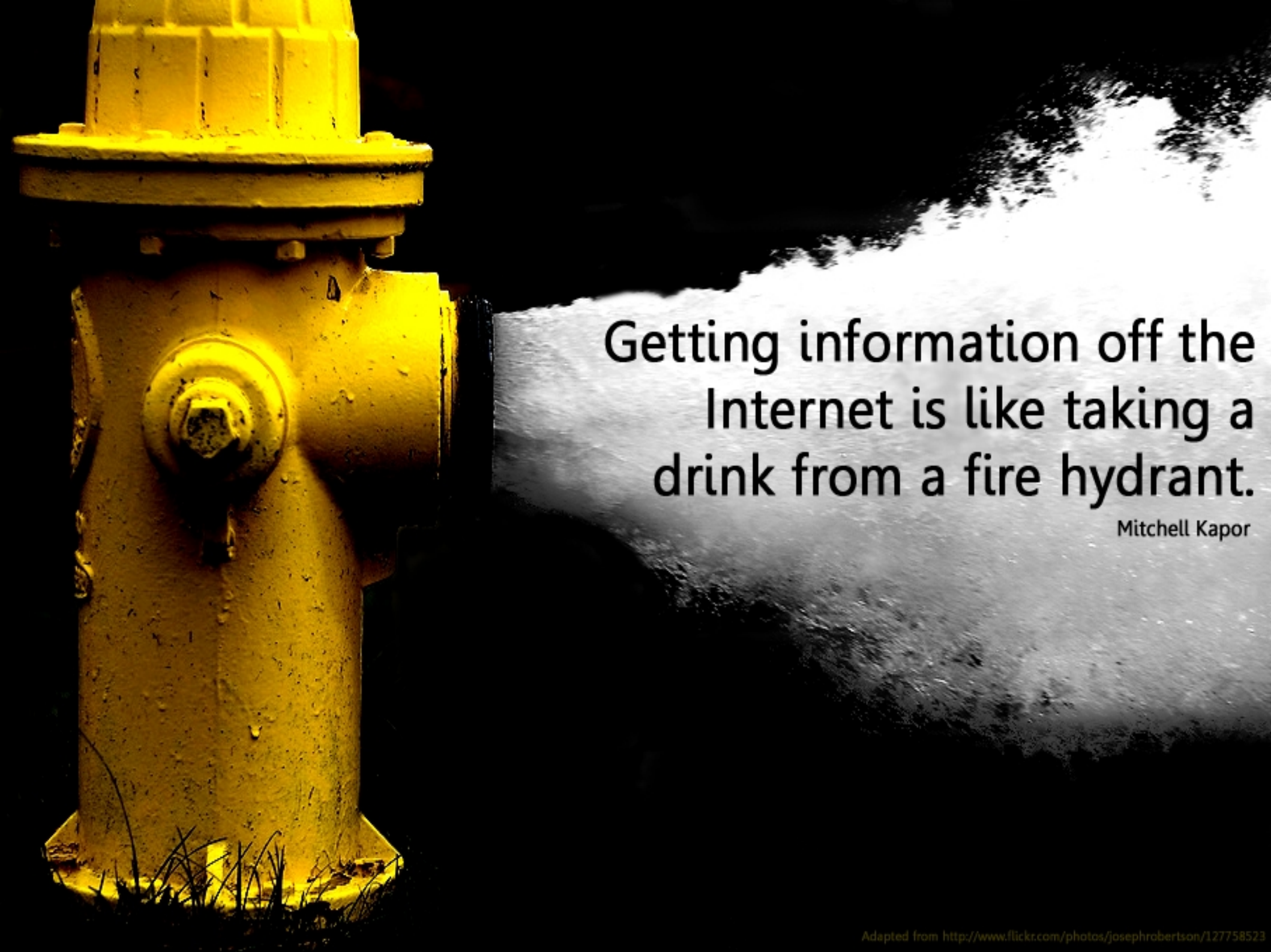


Remembering - Digital

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

**Bullet pointing, Highlighting, Bookmarking,
Social Networking Social bookmarking
Favouriting/local bookmarking, Searching,
Googling**



A close-up photograph of a yellow fire hydrant. A powerful stream of water is spraying from the side of the hydrant, creating a large, bright plume that dominates the right side of the frame. The background is dark, making the yellow hydrant and the white water stand out. The hydrant has a textured, slightly weathered appearance.

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



The image features three silhouettes of people running against a vibrant sunset background. The largest silhouette on the left is in mid-stride, leaning forward. In the center, a smaller silhouette stands upright, facing forward. On the right, another silhouette is running towards the right. The sky is filled with warm, golden light from the setting sun, creating a dramatic and energetic atmosphere.

"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



A photograph of a classroom or lecture hall. The room is filled with rows of red plastic chairs, each with a white desk attached to its right side. The chairs are arranged in a grid pattern, and the room appears to be empty. The lighting is bright, and the overall atmosphere is clean and organized.

“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"**

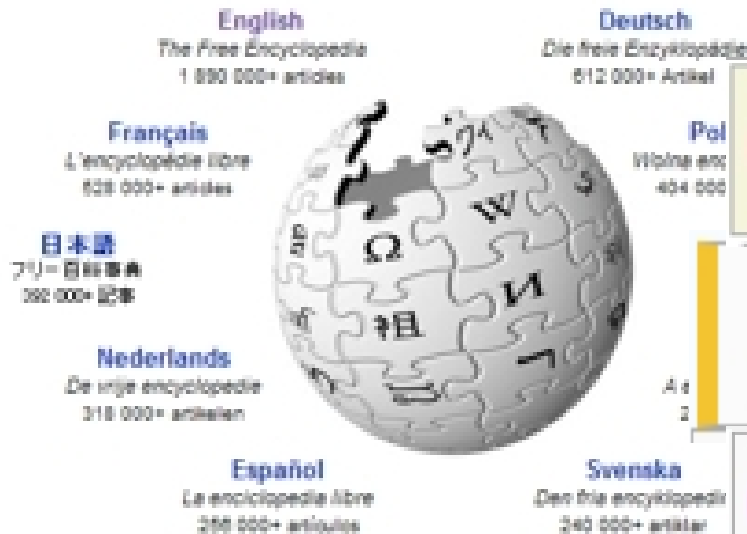
Saatchi & Saatchi





Evaluating – Validating Information

WIKIPEDIA



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 would 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



Images used here

- Created by Will Lion
- <http://www.flickr.com/photos/will-lion/>

There is a Creative Commons license attached to these images.

- Attribution
- Noncommercial
- No Derivative Works

(Slides 3-14, 16, 26, 29, 30, 33, 36, 39, 42, 44, 45, 46)

Contact details

- Blog: edorigami.edublogs.org
- Wiki: edorigami.wikispaces.com
- Twitter: [achurches](https://twitter.com/achurches)
- Email: achurches@kristin.school.nz

