

# 스마트 교실학습 상상하기

김현철

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# Questions

1. 스마트러닝이 뭐지? 이-러닝과 다른가? 왜 해야 하지?
2. 어떤 모습일까? 어떤 사례들이 있을까?
3. 어떻게 해야 하지?

# Overview

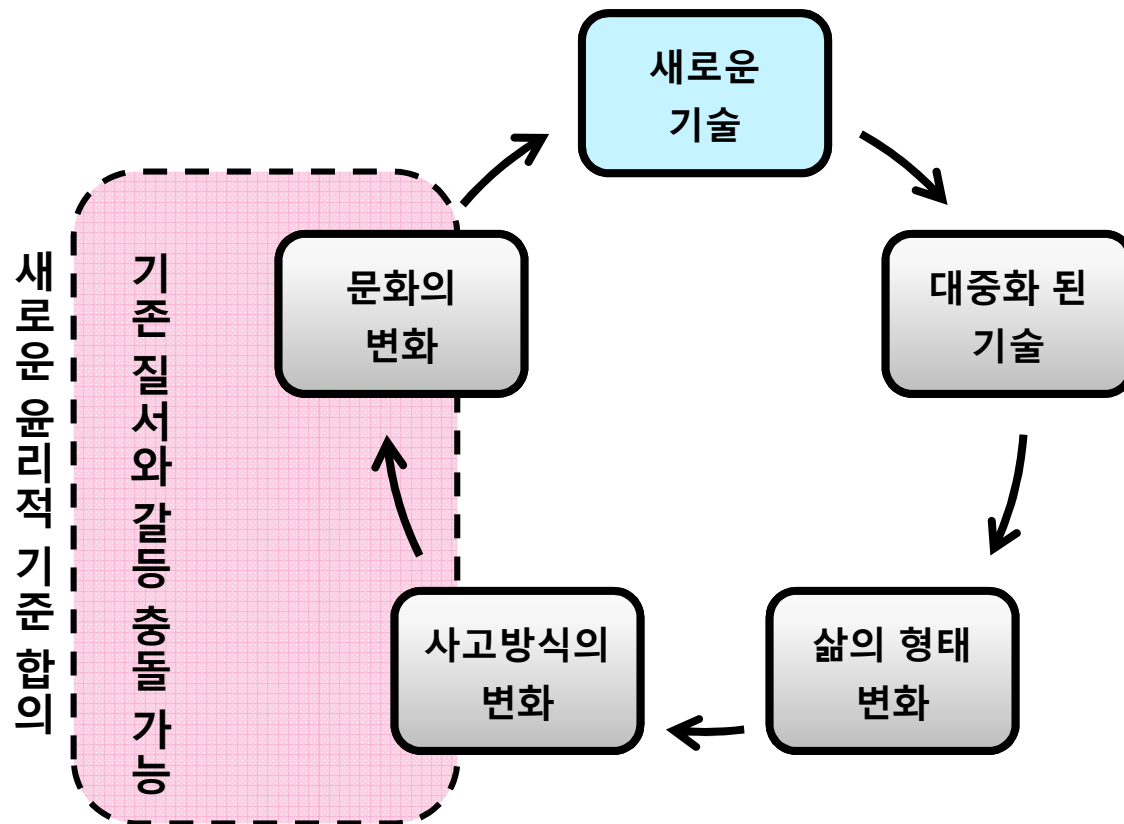
1. 기술, 사회, 문화의 상호진화
2. 패러다임의 변화, 스마트 환경, 교육적 고찰
3. 스마트 교실에 대한 여러 상상들



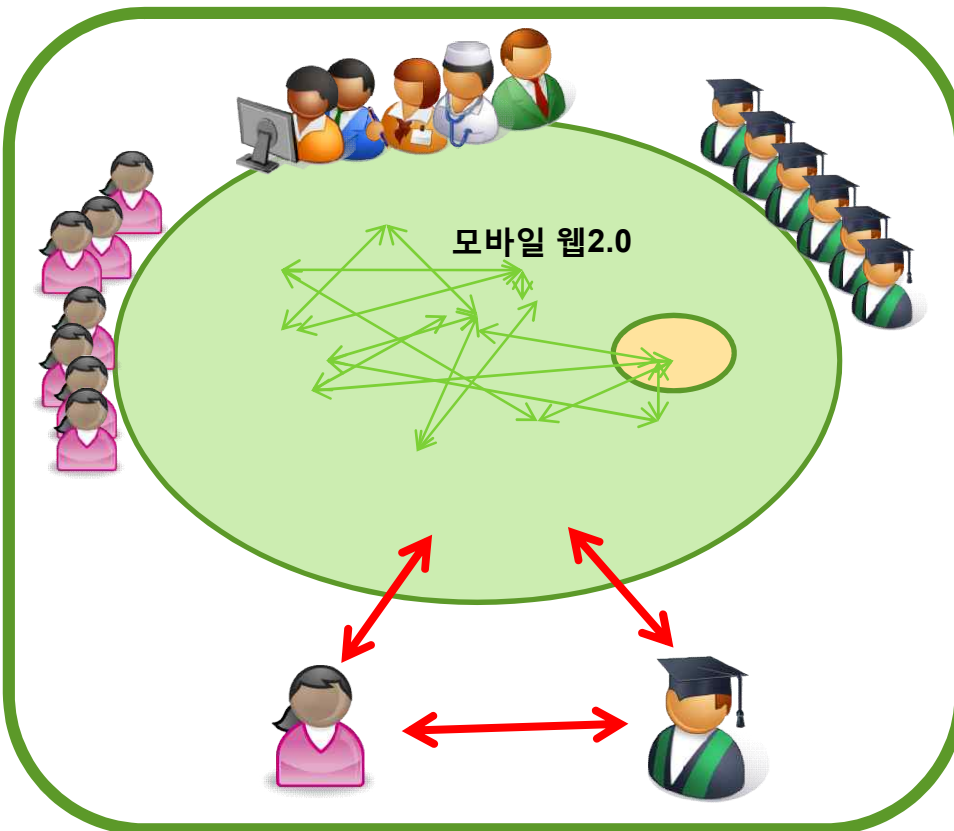
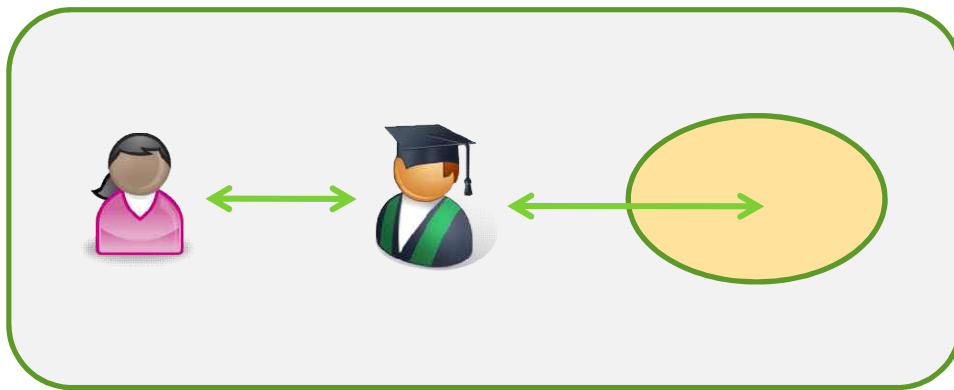
# 기술, 사회, 문화의 상호진화

기술을 통한 소통





- ‘대중화된 기술’에 대한 이해가 멈추는 순간, 새로운 세상에 대한 이해와 소통도 멈춘다.
- 따라서, ‘대중화된 기술’에 대한 이해와 적응, 활용은 중요. 특히, 아이들에게 중요.



웹에 이미 엄청난 양의 정보와 자료 존재.  
다른 사람의 경험과 고민이 공개, 공유  
그들과 자유로운 의사소통 방법 존재

위키피디아, UCC대학, 오픈코스웨어, 오픈소스

새로운 방식의 의사소통 방법 필요  
정보 검색/검증/‘판단’능력 필요

“공개, 공유, 협업” 기반의 교수-학습 환경

즉각적 communication, 즉각적 feedback  
Multi-tasking에 익숙한 아이들

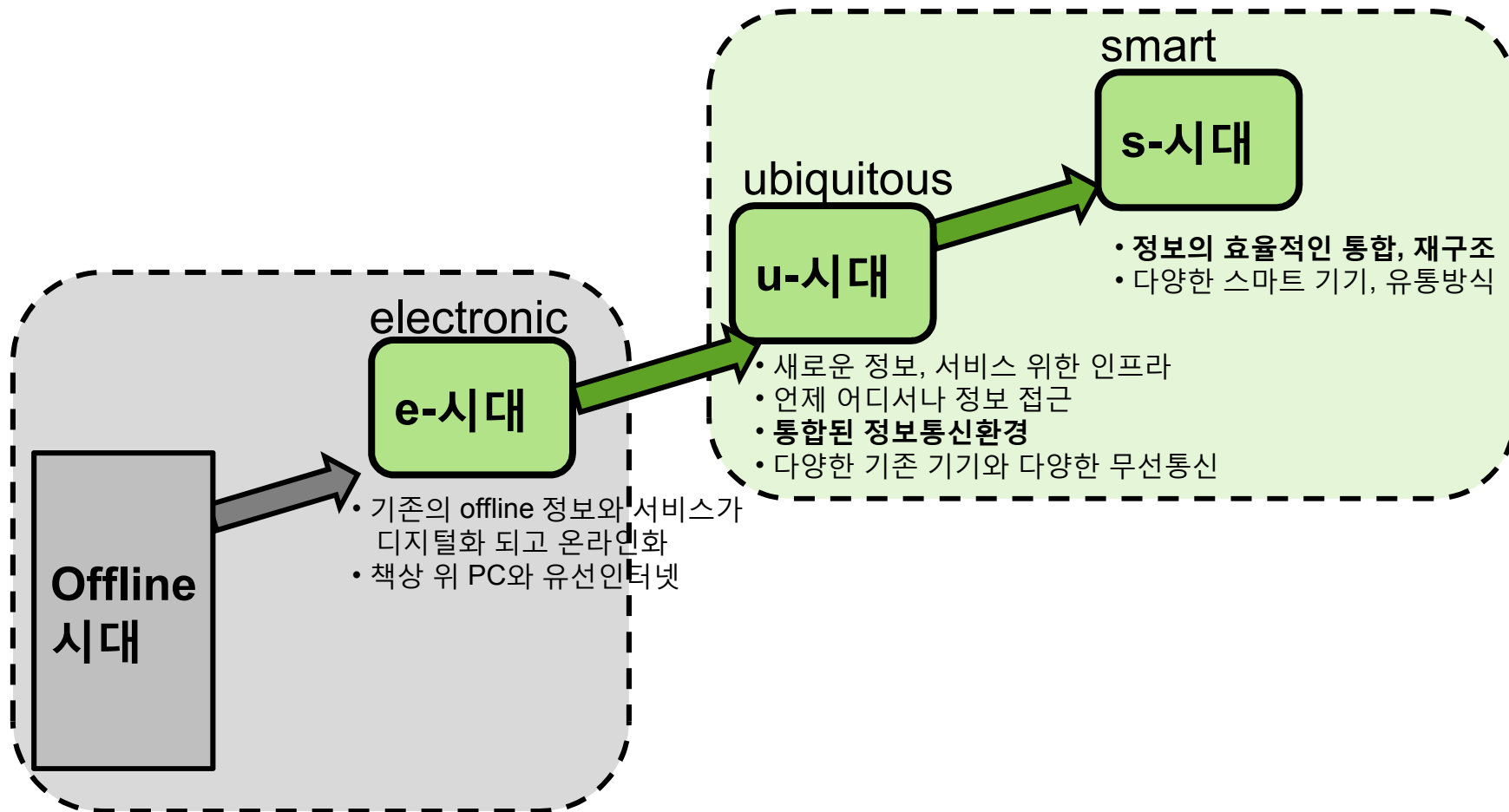


# 새로운 패러다임

스마트, 융합, 2.0, 그리고 교육



# 새로운 패러다임: 스마트 시대



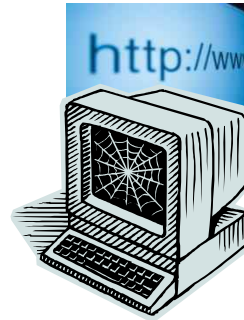
# 새로운 패러다임: 스마트 시대 (예)

문제상황:  
버스 정류장에서 오래 기다리고 싶지 않다.

Offline  
시대



e-시대



u-시대

s-시대

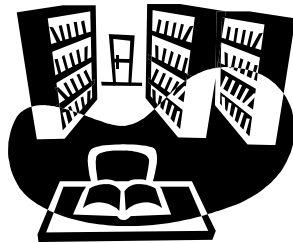




# 새로운 패러다임: 스마트 시대 (예)

문제상황:  
도서관에서 잡지를 빌려본다.

Offline  
시대



e-시대



u-시대



s-시대



# 새로운 패러다임: 스마트 시대 (예)

문제상황:  
주민등록 등본, 인감증명서, 인감도장

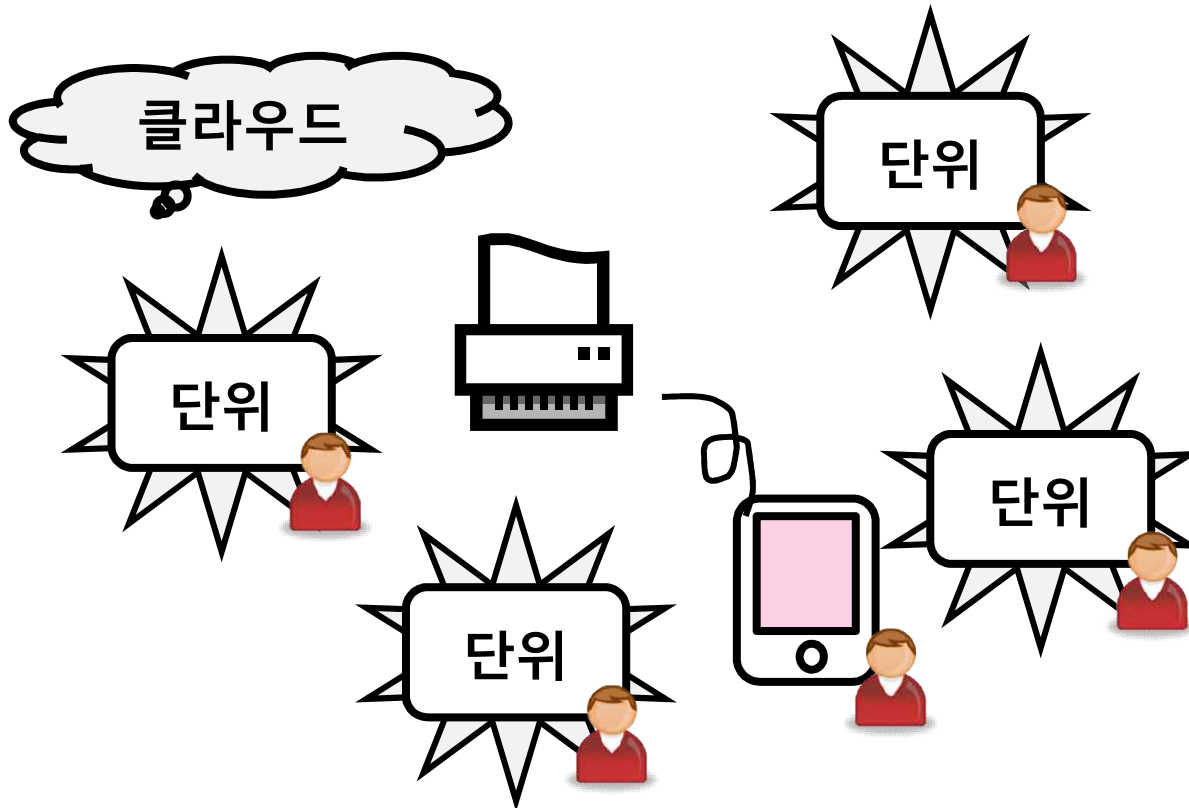
Offline  
시대

e-시대

u-시대

s-시대

# 스마트 환경




단위:  
정보의 생산/소통 단위

모든 단위들의  
네트워크화

네트워크 중심에  
클라우드

- 단위가 무엇이어야 하는가가 중요
- '정보'의 관점에서 모든 문제 재정의 (생산, 소비, 유통)
- 여러 정보가 통합되어 새로운 정보와 서비스로 스마트한 재구조화가 이루어지는가



# 그렇다면 스마트 러닝은?

이-러닝과의 차이점은?


ICT활용 교육과의 차이점은?






# 스마트 교실학습

어떤 모습이어야 할까



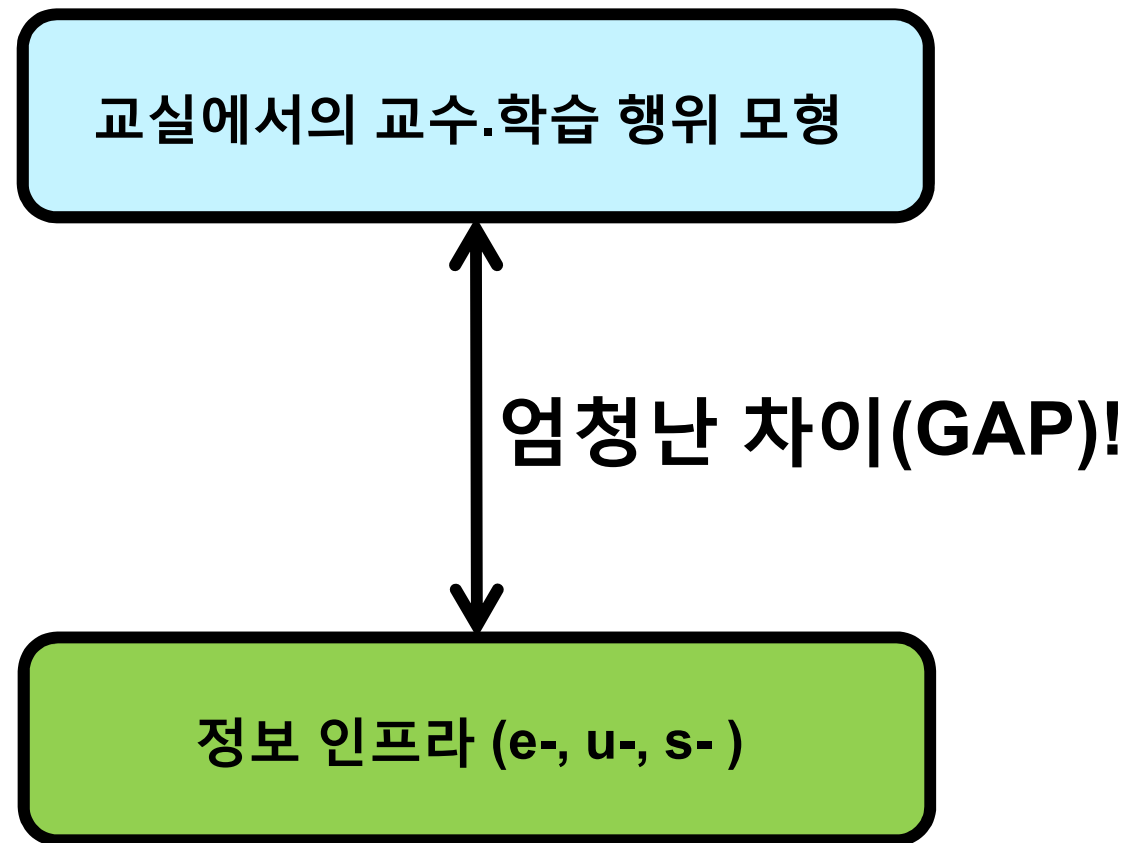


# 우리의 교실은?

E-시대, u-시대, s-시대?



## 문제점



따라서 **교육정보화**는 본질은 건들지 못하고  
**책의 디지털화**와 **강의의 온라인화**에만 머물러 있음.

결으로는 u-와 s-를 말하지만, 10년째 **e-**에만 머물러 있음.

# 스마트 교실

무엇부터 생각해야 할까.

정보의 생산/소통 ‘단위’는 무엇?? 어떤 ‘정보’?

- 현재상태
  - 정보의 종류, 정보의 from-to, 의사소통 방향
- 우리가 얻으려고 하는 것이 무엇인지.
  - 활발한 의사소통?
  - 효율적인 정보 수집과 공유?
  - Instant feedback?
- 어떻게 구성할 것인지.
  - 어떤 도구를 어떻게 활용.



# 고려해야 할 중요한 요소

- 오프라인 교실에서, e-교실에서 하지 못했던 것, 하지만 아이들은 익숙해 있는 것. 그것이 무엇일까.

- 활발한 상호 의사소통
- 소셜 러닝, 협업
- 즉각적 피드백

에 의한 학습몰입, 학습성취도 향상.

## 교실에서의 교수·학습 행위 모형

- Linear and sequential
- Limited instance comm. & feedback
- One-way delivery

## 소셜 러닝

- 사회적 구성주의

즉각적 feedback

즉각적 의사소통

즉각적 정보 공유·수집

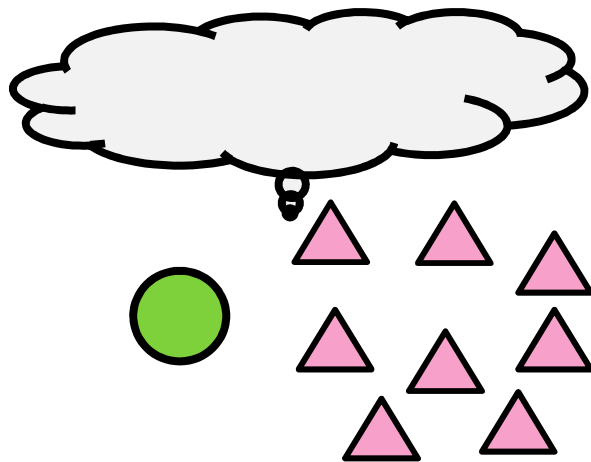
협업

개방, 공유, 소통

따라서 **교육정보화**는 본질은 건들지 못하고  
**책의 디지털화**와 **강의의 온라인화**에만 머물러 있음.

겉으로는 u-와 s-를 말하지만, 10년째 **e-**에만 머물러 있음.

## 스마트 교실, 교수학습




교실에서의 교수.학습 행위 모형

정보 인프라 (e-, u-, s- )



아마존 Highlight Sharing  
Bookmark Sharing




# 다양한 도구들, 여러가지 생각들

어떤 도구들이 사용되고 있는가.



## 다양한 도구들, 여러가지 상상들

1. 어떤 도구들이 사용되고 있는가.
  2. 어떤 사례들이 있는가.
  3. 고려해야 할 점.
- 

## About the Top 100 Tools List



Jane Hart is a  
Social Business Consultant.

She is founder of the  
Centre for Learning &  
Performance Technologies.

[www.C4LPT.co.uk/jane.html](http://www.C4LPT.co.uk/jane.html)

During 2010, 545 learning professionals from around the world shared their **Top 10 Tools for Learning**.

From these lists I compiled the **Top 100 Tools for Learning 2010** list. You can view the list at: [bit.ly/top1002010](http://bit.ly/top1002010)

There you will also find links to pages showing the winners and losers in 2010, as well as some analysis of the emerging trends in learning.

The 2011 list is now being built at [bit.ly/top1002011](http://bit.ly/top1002011)

1

Twitter

*Micro-blogging tool*

twitter

Previous rankings:

2009: 1st

2008: 11<sup>th</sup>

2007: 43<sup>rd</sup>

Keep in touch with colleagues and  
friends no matter where you are  
or what you're doing  
in less than 140 characters

Cost: Free

Available: Hosted

[www.twitter.com](http://www.twitter.com)

의견과 콘텐츠의 즉각적 상호작용



**2** **YouTube**  
*Video hosting and sharing tool*



Previous rankings:  
2009: 3<sup>rd</sup>  
2008: 18<sup>th</sup>  
2007: 22<sup>nd</sup>

A place where you can host, tag and share videos online.

Cost: Free  
Available: Hosted

[www.youtube.com](http://www.youtube.com)

**3** **Google Docs**  
*Online office suite*



Previous rankings:  
2009: 5<sup>th</sup>  
2008: 7<sup>th</sup>  
2007: 14<sup>th</sup>

To create, store and share documents, spreadsheets and presentations online, and where you can work on your own or collaboratively.

Cost: Free  
Available: Hosted

[www.google.com/docs/](http://www.google.com/docs/)

**4** **Delicious**  
*Social bookmarking tool*



Previous rankings:  
2009: 2<sup>nd</sup>  
2008: 1<sup>st</sup>  
2007: 2<sup>nd</sup>

A place to store your bookmarks online, tag them and share them with your colleagues and/or students.

Cost: Free  
Available: Hosted

[www.delicious.com](http://www.delicious.com)

**5** **Slideshare**  
*Presentation sharing site*



Previous rankings:  
2009: 7<sup>th</sup>  
2008: 20<sup>th</sup>  
2007: 31<sup>st</sup>

A place where you can store, tag and share your presentations with others and create a slidecast.

Cost: Free  
Available: Hosted

[www.slideshare.net](http://www.slideshare.net)

**6** **Skype**  
*Instant messenger/voice call tool*



Previous rankings:  
2009: 11<sup>th</sup>  
2008: 4<sup>th</sup>  
2007: 3<sup>rd</sup>

For text and voice message conversations with others.

Cost: Free  
Available: Download  
Platform: Windows and Mac

[www.skype.net](http://www.skype.net)

**7** **Google Reader**  
*RSS reader*



Previous rankings:  
2009: 4<sup>th</sup>  
2008: 3<sup>rd</sup>  
2007: 7<sup>th</sup>

A web-based reader to aggregate and manage all your news and blog (RSS) feeds in one place.

Cost: Free  
Available: Hosted

[www.google.com/reader](http://www.google.com/reader)

**8** **WordPress**  
*Blogging tool*



Previous rankings:  
2009: 6<sup>th</sup>  
2008: 5<sup>th</sup>  
2007: 6<sup>th</sup>

A blogging platform that is free and easy to use.

Cost: Free Open Source  
Available: Hosted/Download

[www.wordpress.com](http://www.wordpress.com)  
[www.wordpress.org](http://www.wordpress.org)

**9** **Facebook**  
*Social networking site*



Previous rankings:  
2009: 31<sup>st</sup>  
2008: 24<sup>th</sup>  
2007: 17<sup>th</sup>

A social networking site with over 300 million active members, that also includes many applications that allow it to be used productively in education and business.

Cost: Free  
Available: Hosted

[www.facebook.com](http://www.facebook.com)

**10** **Moodle**  
*Course management system*



Previous rankings:  
2009: 14<sup>th</sup> =  
2008: 9<sup>th</sup>  
2007: 12<sup>th</sup>

Course management system with social functionality

Cost: Free Open Source  
Available: Download  
Platform: Windows, Mac, Linux

[www.moodle.org](http://www.moodle.org)

**11** **Google Search**  
*Web search engine*



Previous rankings:  
2009: 8<sup>th</sup>  
2008: 6<sup>th</sup>  
2007: 3<sup>rd</sup>

A powerful web-based search engine, so to find any information, you just "Google" it!

Cost: Free  
Available: Hosted

[www.google.com](http://www.google.com)

**12** **Prezi**  
*Presentation tool*



Previous rankings:  
2009: 28<sup>th</sup>  
2008: -  
2007: -

Build amazing, non-linear presentations where you can zoom in and out of a visual map containing words, links, images, videos, etc

Cost: Free & paid for plans  
Available: Online

[www.prezi.com](http://www.prezi.com)

**13** **Dropbox**  
*File synching tool*



Previous rankings:  
2009: 71<sup>st</sup> =  
2008: -  
2007: -

Put your files into your Dropbox on one computer, and they'll be instantly available on any of your other computers that you've installed Dropbox on.

Cost: Free & Commercial  
Available: Download/Hosted  
Platform: Windows, Mac, Linux

[www.dropbox.com](http://www.dropbox.com)

**14** **Blogger**  
*Bloggng tool*



Previous rankings:  
2009: 14<sup>th</sup> =  
2008: 10<sup>th</sup>  
2007: 9<sup>th</sup>

A simple and quick way to get a blog up and running.

Cost: Free  
Available: Hosted

[www.blogger.com](http://www.blogger.com)

**15** **Diigo**  
*Social bookmarking tool*



Previous rankings:  
2009: 22<sup>nd</sup> =  
2008: 35<sup>th</sup>  
2007: 72<sup>nd</sup>

A social annotation tool where you can highlight, clip and sticky-note any page and then share your findings with others

Cost: Free  
Available: Hosted

[www.diigo.com](http://www.diigo.com)

**16** **Wikipedia**  
*Collaborative encyclopaedia*



Previous rankings:  
2009: 17<sup>th</sup>  
2008: 13<sup>th</sup>  
2007: 26<sup>th</sup>

This online encyclopaedia has been written collaboratively by thousands of people from around the world.

Cost: Free  
Available: Hosted

[www.wikipedia.org](http://www.wikipedia.org)

**17=** **Jing**  
*Screen capture/casting tool*



Previous rankings:  
2009: 20<sup>th</sup>  
2008: 26<sup>th</sup>  
2007: -

A desktop program you can use to instantly capture screenshots and videos – and then share them.

Cost: Free  
Available: Download  
Platform: Windows, Mac

[www.jingproject.com](http://www.jingproject.com)

**17=** **Wikispaces**  
*Wiki tool*



Previous rankings:  
2009: 29<sup>th</sup>  
2008: 19<sup>th</sup>  
2007: 15<sup>th</sup>

A service that lets you create a wiki for collaborative working and/or learning

Cost: Free/Commercial  
Available: Hosted

[www.wikispaces.com](http://www.wikispaces.com)

**19** **VoiceThread**  
*Collaborative slideshow tool*



Previous rankings:  
2009: 19<sup>th</sup>  
2008: 23<sup>rd</sup>  
2007: -

A tool that lets you create collaborative presentations by collecting comments - both text and voice.

Cost: Free/Commercial  
Available: Hosted

[www.voicethread.com](http://www.voicethread.com)

**20** **Flickr**  
*Image hosting and sharing tool*



Previous rankings:  
2008: 15<sup>th</sup>  
2007: 16<sup>th</sup>

A place where you can store your photos, tag them and share them with others.

Cost: Free  
Available: Hosted

[www.flickr.com](http://www.flickr.com)

**21** **PowerPoint**  
*Presentation software*



Previous rankings:  
2009: 13<sup>th</sup>  
2008: 8<sup>th</sup>  
2007: 5<sup>th</sup>

This presentation software is part of the Microsoft Office suite.

Cost: Commercial  
Available: Download  
Platform: Windows & Mac

[office.microsoft.com/powerpoint](http://office.microsoft.com/powerpoint)

**22** **Wordle**  
*Word cloud generator*



Previous rankings:  
2009: 30<sup>th</sup>  
008: -  
2007: -

Input or copy in some text and generate a visual cloud of the most frequently use words. Tweak your clouds with different fonts, layouts and colour scheme.

Cost: Free  
Available: Online

[www.wordle.net](http://www.wordle.net)

**23** **Evernote**  
*Note taking tool*



Previous rankings:  
2009: 27<sup>th</sup>  
2008: -  
2007: -

Lets you capture things (web pages, screenshots, photos, note, etc), which you can tag, store and find again fast

Cost: Free/premium accounts  
Available: Online/Download

[www.evernote.com](http://www.evernote.com)

**24** **Audacity**  
*Audio/podcasting tool*



Previous rankings:  
2008: 12<sup>th</sup>  
2007: 11<sup>th</sup>

A sound editor and recorder suitable for podcasting.

Cost: Free, Open Source  
Available: Download  
Platform: Windows, Mac, Unix/Linux

[audacity.sourceforge.net](http://audacity.sourceforge.net)

**25** **Glogster**  
*Poster tool*



Previous rankings:  
2009: 55<sup>th</sup>=  
2008: -  
2007: -

Make an interactive poster

Cost: Free  
Available: Online

[www.glogster.com](http://www.glogster.com)

**26** **Wallwisher**  
*Online notice board*



Previous rankings:  
2009: 26<sup>th</sup>=  
2008: -  
2007: -

An online noticeboard maker.

Cost: Free  
Available: Online

[www.wallwisher.com](http://www.wallwisher.com)

**27** **Camtasia Studio**  
*Screencasting tool*



Previous rankings:  
2009: 26<sup>th</sup>  
2008: 26<sup>th</sup>  
2007: 50<sup>th</sup>

Record your screen to create training, demo, and presentation videos, aka screencasts.

Cost: Commercial  
Available: Download  
Platform: Windows

[www.techsmith.com/camtasia.asp](http://www.techsmith.com/camtasia.asp)

**28** **Animoto**  
*Video tool*



Previous rankings:  
2009: 31<sup>st</sup>  
2008: -  
2007: -

Let's you create videos from your images

Cost: Free  
Available: Online

[www.animoto.com](http://www.animoto.com)

**29** **Firefox**  
*Web browser with extensions*



Previous rankings:  
2009: 9<sup>th</sup>=  
2008: 2<sup>nd</sup>  
2007: 1<sup>st</sup>

This is an award winning browser with thousands of extensions to add to its functionality.

Cost: Free, Open Source  
Available: Download  
Platform: Windows, Mac, Linux

[www.mozilla.com/firefox/](http://www.mozilla.com/firefox/)

**30** **LinkedIn**  
*Professional networking site*



Previous rankings:  
2009: 38<sup>th</sup> =  
2008: 30<sup>th</sup>  
2007: 31<sup>st</sup>

A public social network aimed at the professional community.

Cost: Free  
Available: Hosted

[www.linkedin.com](http://www.linkedin.com)

**31=** **Gmail/Google Mail**  
*Web mail*



Previous rankings:  
2009: 21<sup>st</sup>  
2008: 14<sup>th</sup>  
2007: 7<sup>th</sup>

A web-based email service with many megabytes of storage space for archiving mail threads.

Cost: Free  
Available: Hosted

[mail.google.com](http://mail.google.com)

**31=** **Ning**  
*Private social networking tool*



Previous rankings:  
2009: 11<sup>th</sup> =  
2008: 16<sup>th</sup>  
2007: 31<sup>st</sup>

Created your own customised private social networks and communities.

Cost: Commercial  
Available: Hosted

[www.ning.com](http://www.ning.com)

**33** **PBworks**  
*Collaboration tool*



Previous rankings:  
2009: 34<sup>th</sup>  
2008: 35<sup>th</sup>  
2007: 43<sup>rd</sup>

A collaboration solution suitable for both business and education - previously known as PBwiki.

Cost: Free/Commercial  
Available: Hosted

[www.pbworks.com](http://www.pbworks.com)

**34** **Google Apps**  
*Google application suite*



Previous rankings:  
2009: 38<sup>th</sup>=  
2008: 66<sup>th</sup>  
2007: -

Software-as-a-service for business and education - email, information sharing and security

Cost: Commercial  
Available: Hosted

[www.google.com/a/](http://www.google.com/a/)

**35** **Elluminate**  
*Web conferencing software*



Previous rankings:  
2009: 43<sup>rd</sup> =  
2008: 50<sup>th</sup>  
2007: 50<sup>th</sup>

A solution for live e-learning and web collaboration.

Cost: Commercial  
Available: Hosted

[www.elluminate.com](http://www.elluminate.com)

**36** **Posterous**  
*Blogging tool*



Previous rankings:  
2009: 55<sup>th</sup>  
2008: -  
2007: -

A very simple blogging system. Post to your Posterous blog using email and attach any type of file if you want to include it.

Cost: Free  
Available: Online

[www.posterous.com](http://www.posterous.com)

**37** **Tweetdeck**  
*Social software client*



Previous rankings:  
2009: 43<sup>rd</sup>  
2008: -  
2007: -

Personal browser for staying in touch with what's happening now, connecting you with your contacts across Twitter, Facebook and more.

Cost: Free  
Available: Download  
Platform: Windows/Mac

[www.tweetdeck.com](http://www.tweetdeck.com)

**38** **Captivate**  
*Demo and scenario tool*



Previous rankings:  
2009: 22<sup>nd</sup> =  
2008: 30<sup>th</sup>  
2007: 17<sup>th</sup>

Cost: Commercial  
Available: Download  
Platform: Windows

Create simulations, software demonstrations, and scenario-based training without programming knowledge or multimedia skills

[www.adobe.com/products/captivate](http://www.adobe.com/products/captivate)

**39=** **Google Sites**  
*Web / wiki Tool*



Previous rankings:  
2009: 71<sup>st</sup> =  
2008: 59<sup>th</sup>  
2007: -

Cost: Free  
Available: Hosted

Lets you create simple, secure group websites.

[www.google.com/sites](http://www.google.com/sites)

**39=** **iPhone/iPod Touch and Apps**



Previous rankings:  
2009: 31<sup>st</sup> =  
2008: 50<sup>th</sup>  
2007: 43<sup>rd</sup>

Cost: Free/Commercial  
Available: Hosted

Phone, internet and multimedia device and access to thousands of applications.

[www.apple.com/iphone](http://www.apple.com/iphone)

**41** **Google Earth**  
*Satellite and aerial imagery*



Previous rankings:  
2009: 43<sup>rd</sup> =  
2008: 40<sup>th</sup>  
2007: 40<sup>th</sup>

Cost: Free  
Available: Download  
Platform: Windows, Mac, Linux

Combines the power of Google Search with satellite imagery, maps, terrain and 3D buildings.

[earth.google.com/](http://earth.google.com/)

**42** **SnagIt**  
*Screen capture tool*



Previous rankings:  
2009: 25<sup>th</sup>  
2008: 21<sup>st</sup>  
2007: 26<sup>th</sup>

Cost: Commercial  
Available: Download  
Platform: Windows

Capture anything on your screen, edit the image and print it or share it as you wish.

[www.techsmith.com/snagit.asp](http://www.techsmith.com/snagit.asp)

**43** **Articulate**  
*Rapid e-learning suite*



Previous rankings:  
2009: 24<sup>th</sup>  
2008: 25<sup>th</sup>  
2007: 22<sup>nd</sup>

Cost: Commercial  
Available: Download  
Platform: Windows

Three powerful yet easy-to-use products - Presenter, Engage and Quizmaker - to create e-learning content.

[www.articulate.com](http://www.articulate.com)

**44=** **Google Chrome**  
*Web browser*



Previous rankings:  
2009: 55<sup>th</sup> =  
2008: -  
2007: -

Cost: Free  
Available: Online

A browser that combines a minimal design with sophisticated technology to make the web faster, safer and easier.

[www.google.com/chrome](http://www.google.com/chrome)

**44=** **iGoogle**  
*Personal start page tool*



Previous rankings:  
2009: 16<sup>th</sup>  
2008: 17<sup>th</sup>  
2007: 17<sup>th</sup>

Cost: Free  
Available: Hosted

Here you can aggregate all the Google resources you use on your online desktop, e.g. Gmail, Google Calendar, Google Reader and more.

[www.google.com/ig](http://www.google.com/ig)

**46=** **Edmodo**  
*Educational micro-blogging*



Previous rankings:  
2009: 88<sup>th</sup> =  
2008: -  
2007: -

Cost: Free  
Available: Online

A private social platform for teachers and students to share ideas, files, events and assignments.

[www.edmodo.com](http://www.edmodo.com)

**46=** **Picasa**  
*Photo organiser*



Previous rankings:  
2009: 63<sup>rd</sup>  
2008: -  
2007: 57<sup>th</sup>

Cost: Free  
Available: Download  
Platform: Windows

Locate and organise all the photos on your computer, edit and add effects to your photos, and share your photos with others.

[picasa.google.com](http://picasa.google.com)

**48=** **Edublogs**  
*Blogging tool for education*



Previous rankings:  
2009: 49<sup>th</sup>  
2008: 59<sup>th</sup>  
2007: 72<sup>nd</sup>

Cost: Free  
Available: Hosted

Blogging for teachers and students, made easy (based on Wordpress platform)

[www.edublogs.org](http://www.edublogs.org)

**48=** **Survey Monkey**  
*Survey & Questionnaire Tool*



Previous rankings:  
2009: 88<sup>th</sup>  
2008: 54<sup>th</sup>  
2007: -

Cost: Free/Commercial  
Available: Hosted

Survey software for anyone to create professional online surveys quickly and easily.

[www.surveymonkey.com](http://www.surveymonkey.com)

**50** **Etherpad (and clones)**  
*Real-time document collaboration*



Previous rankings:  
2009: 71<sup>st</sup>  
2008: -  
2007: -

Cost: Free/Commercial  
Available: Online

[www.etherpad.com](http://www.etherpad.com)

A web-based word processor that allows people to work together in real-time. Clones include TypeWithMe, etc

**51=** **Amplify**  
*Content Sharing & Conversation Platform*



Previous rankings:  
2009: -  
2008: -  
2007: -

Cost: Free  
Available: Online

[www.amplify.com](http://www.amplify.com)

Amplify is a service for engaging in conversation about news, thoughts and ideas that people share

**51=** **iTunes/iTunesU**  
*Audio player & site*



Previous rankings:  
2009: 41<sup>st</sup> =  
2008: 28<sup>th</sup>  
2007: 26<sup>th</sup>

Cost: Free  
Available: Download  
Platform: Windows, Mac

[www.apple.com/itunes](http://www.apple.com/itunes)

Listen to music and podcasts as well as watch videos. Educational podcasts available at iTunes U

**53** **Google Calendar**  
*Online calendar*



Previous rankings:  
2009: 50<sup>th</sup>  
2008: 29<sup>th</sup>  
2007: 36<sup>th</sup>

Cost: Free  
Available: Hosted

[www.google.com/calendar](http://www.google.com/calendar)

Use it for your own personal diary or for scheduling events with others

**54=** **Dimdim**  
*Web conferencing system*



Previous rankings:  
2009: 43<sup>rd</sup> =  
2008: -  
2007: -

Cost: Free Open Source & pro accounts  
Available: Online

[www.dimdim.com](http://www.dimdim.com)

Lets you deliver synchronised presentations, whiteboards and web pages while sharing voice and video.

**54=** **Google Wave**  
*Real-time collaboration*



Previous rankings:  
2009: 71<sup>st</sup> =  
2008: 83<sup>rd</sup>  
2007: 50<sup>th</sup>

Cost: Free  
Available: Hosted

[www.google.com/wave](http://www.google.com/wave)

Google Wave lets you communicate and collaborate in real time.

**54=** **Scribd**  
*Document hosting/sharing site*



Previous rankings:  
2009: 71<sup>st</sup> =  
2008: 83<sup>rd</sup>  
2007: 50<sup>th</sup>

Cost: Free  
Available: Hosted

[www.scribd.com](http://www.scribd.com)

A place to store documents - doc, ppt, pdf, xls, etc and share them with others.

**57** **Zotero**  
*Collect and manage research*



Previous rankings:  
2009: -  
2008: 66<sup>th</sup>  
2007: 72<sup>nd</sup>

Cost: Free  
Available: Hosted

[www.zotero.com](http://www.zotero.com)

Firefox extension to help you collect, manage, and cite your research sources

**58=** **Google Maps**  
*Maps and directions*



Previous rankings:  
2009: 67<sup>th</sup> =  
2008: 34<sup>th</sup>  
2007: 36<sup>th</sup>

Cost: Free  
Available: Hosted

[www.google.com/maps](http://www.google.com/maps)

Searchable and zoomable maps of the UK, US, etc, where you can find businesses and get directions.

**58=** **Screenr**  
*Screencasting tool*



Previous rankings:  
2009: 55<sup>th</sup> =  
2008: -  
2007: -

Cost: Free  
Available: Online

[www.screenr.com](http://www.screenr.com)

It lets you record on your Mac or PC, and then play on the Web or on an iPhone.

**60** **Word**  
*Word processing software*



Previous rankings:  
2009: 36<sup>th</sup> =  
2008: 22<sup>nd</sup>  
2007: 10<sup>th</sup>

Cost: Commercial  
Available: Download  
Platform: Windows and Mac

[office.microsoft.com/word](http://office.microsoft.com/word)

This word processing software is part of the Microsoft Office suite

**61=** **Adobe Connect**  
*Web conferencing software*



Previous rankings:  
2009: 41<sup>st</sup> =  
2008: 66<sup>th</sup>  
2007: 52<sup>nd</sup>

Cost: Commercial  
Available: Hosted

[www.adobe.com/products/connect](http://www.adobe.com/products/connect)

A communication system that provides enterprise web communication and online collaboration.



**61=** **Livebinders**  
*3-ring binder for the Web*



Livebinders is your 3-ring binder for the Web

Previous rankings:  
2009: -  
2008: -  
2007: -

Cost: Free  
Available: Online  
[www.livebinders.com](http://www.livebinders.com)

**61=** **Netvibes**  
*Personal start page/dashboard*



A start page that provides you with access to all your digital resources in one place: blogs, news, videos, podcast, pictures, e-mail, etc.

Previous rankings:  
2009: 55<sup>th</sup> =  
2008: 37<sup>th</sup>  
2007: 26<sup>th</sup>

Cost: Free  
Available: Hosted  
[www.netvibes.com](http://www.netvibes.com)

**61=** **OpenOffice**  
*Office software suite*



An office suite of tools to create documents, spreadsheets and presentations

Previous rankings:  
2009: 71<sup>st</sup> =  
2008: 44<sup>th</sup>  
2007: 31<sup>st</sup>

Cost: Free, Open Source  
Available: Download  
Platform: Windows, Mac, Linux  
[www.openoffice.org](http://www.openoffice.org)

**65** **Blogs & blogging tools**

No specific blogs named – but just the very many different blogs available to read



**66=** **Google Scholar**  
*Search for scholarly literature*



A simple way to broadly search for scholarly literature

Previous rankings:  
2009: -  
2008: 42<sup>nd</sup>  
2007: 36<sup>th</sup>

Cost: Free  
Available: Online  
[scholar.google.com](http://scholar.google.com)

**66=** **Wikis and wiki tools**

No specific wikis or wiki tools named.  
The general concept of wikis and wiki tools – whether standalone within other systems.



**68=** **Blackboard**  
*Educational course management system*




A suite of academic tools

Previous rankings:  
2009: -  
2008: -  
2007: -

Cost: Commercial  
Available: Installed  
[www.blackboard.com](http://www.blackboard.com)

**68=** **Yammer**  
*Enterprise micro-blogging service*



Same functionality as Twitter but for in-company use. Only individuals with the same email domain can join a given network. There are also groups and community features

Previous rankings:  
2009: 71<sup>st</sup> =  
2008: -  
2007: -

Cost: Free to users; companies can get admin rights for monthly per user fee  
Available: Online  
[www.yammer.com](http://www.yammer.com)

**70** **Vimeo**  
*Video hosting/sharing site*



Vimeo is a respectful community of creative people who are passionate about sharing the videos they make.

Previous rankings:  
2009: -  
2008: -  
2007: -

Cost: Free  
Available: Online  
[www.vimeo.com](http://www.vimeo.com)

**71=** **Storybird**  
*Collaborative story telling*



Storybirds are short, visual stories that you make with family and friends to share and (soon) print.

Previous rankings:  
2009: -  
2008: -  
2007: -

Cost: Free  
Available: Online  
[www.storybird.com](http://www.storybird.com)

**71=** **Xtranormal**  
*Movie making software*



If you can type, you can make movies. Movie-making software

Previous rankings:  
2009: 71<sup>st</sup>  
2008: -  
2007: -

Cost: Free  
Available: Download  
Platform: Windows  
[www.xtranormal.com](http://www.xtranormal.com)

**73=** **Flip**  
*Digital camcorder*



Tiny little camcorder. Take videos and upload them to your computer using in-built USB – and then onto YouTube etc

Previous rankings:  
2009: 71<sup>st</sup>  
2008: -  
2007: -

Cost: Commercial  
[www.theflip.com](http://www.theflip.com)

**73=** **Mindmeister**  
*Mind mapping tool*



Previous rankings  
2009: 88<sup>th</sup>  
2008: 59<sup>th</sup>  
2007: -

A collaborative mind-mapping tool.

Cost: Free/Commercial  
Available: Hosted

[www.mindmeister.com](http://www.mindmeister.com)

**75=** **Aviary**  
*Suite of online creation tools*



Previous rankings  
2009: -  
2008: -  
2007: -

Photo-editing, logos, web templates, color palettes, screen capture & more

Cost: Free  
Available: Online

[www.aviary.com](http://www.aviary.com)

**75=** **Bit.ly**  
*URL shortener and tracker*



Previous rankings  
2009: -  
2008: -  
2007: -

Shorten, share and track your links

Cost: Free  
Available: Online

[bit.ly](http://bit.ly)

**75=** **Drop.io**  
*File sharing site*



Previous rankings  
2009: -  
2008: -  
2007: -

Drop.io makes it easy to share large files!

Cost: Free  
Available: Online

[www.drop.io](http://www.drop.io)

**75=** **Hootsuite**  
*Social media dashboard*



Previous rankings  
2009: -  
2008: -  
2007: -

Monitor mentions, track results, schedule updates, assign tasks, spread messages

Cost: Free  
Available: Online/Download

[www.hootsuite.com](http://www.hootsuite.com)

**75=** **Sharepoint Server**  
*Intranet platform*



Previous rankings  
2009: 50<sup>th</sup> =  
2008: -  
2007: -

An integrated suite of Microsoft products to create a intranet and collaboration portal.

Cost: Commercial  
Available: Download  
Platform: Microsoft

[sharepoint.microsoft.com](http://sharepoint.microsoft.com)

**75=** **Voki**  
*Personalised avatars*



Previous rankings  
2009: -  
2008: -  
2007: -

Create personalized speaking avatars and use them on your blog, profile, and in email messages.

Cost: Free  
Available: Online

[www.voki.com](http://www.voki.com)

**81=** **Flash**  
*Animation authoring tool*



Previous rankings  
2009: 38<sup>th</sup>  
2008: 38<sup>th</sup>  
2007: 43<sup>rd</sup>

Create powerful and engaging animations.

Cost: Commercial  
Available: Download  
Platform: Windows and Mac

[www.adobe.com/products/flash](http://www.adobe.com/products/flash)

**81=** **Photopeach**  
*Photo hosting and sharing*



Previous rankings  
2009: -  
2008: -  
2007: -

Photopeach lets you quickly upload photos and make slideshows, share them or embed them in your blog.

Cost: Free  
Available: Online

[www.photopeach.com](http://www.photopeach.com)

**81=** **Photostory**  
*Bring your digital photos to life*



Previous rankings  
2009: -  
2008: -  
2007: -

Create slideshows. Touch-up, crop, or rotate pictures Add special effects, soundtracks, and voice narration. Personalize them with titles and captions.

Cost: Free  
Available: Download  
Platform: Windows

[www.microsoft.com/windowsxp/using/digitalphotography/](http://www.microsoft.com/windowsxp/using/digitalphotography/)

**81=** **Second Life**  
*Virtual World application*



Previous rankings  
2009: 71<sup>st</sup> =  
2008: 54<sup>th</sup>  
2007: -

Create an avatar and explore this virtual world - a highly imaginative, creative world.

Cost: Free  
Available: Hosted

[www.secondlife.com](http://www.secondlife.com)

**81=** **Android Phones & Apps**



Android is Google's own Operating System.

The Android OS sports an excellent web browser and integrates online tools pretty effectively..

**85=** **FreeMind**  
*Mindmapping tool*



Previous rankings:  
2009: 71<sup>st</sup> =  
2008: 54<sup>th</sup>  
2007: 50<sup>th</sup>

Cost: Free  
Available: Download  
Platform: Windows, Mac, Linux

A mind mapping tool that can be used as a high productivity tool.

[freemind.sourceforge.net](http://freemind.sourceforge.net)

**85=** **OneNote**  
*Personal Information Manager*



Previous rankings:  
2009: 48<sup>th</sup>  
2008: 65<sup>th</sup>  
2007: 72<sup>nd</sup>

Manage information with tools that save time and simplify your work.

Cost: Commercial  
Available: Download  
Platform: Windows

[office.microsoft.com/en-us/](http://office.microsoft.com/en-us/)

**85=** **Webex**  
*Web conferencing tool*



Previous rankings:  
2008: -  
2007: -

For web meetings and conferences. Deliver interactive training.

Cost: Commercial  
Available: Online

[www.webex.com](http://www.webex.com)

**85=** **Bubbl.us**  
*Collaborative mindmapping tool*



Previous rankings:  
2009: 55<sup>th</sup>  
2008: 83<sup>rd</sup>  
2007: -

A simple web application that lets you brainstorm online with others

Cost: Free  
Available: Hosted

[bubbl.us](http://bubbl.us)

**90=** **Basecamp**  
*Project management tool*



Previous rankings:  
2009: 71<sup>st</sup> =  
2008: 66<sup>th</sup>  
2007: -

Manage and track projects (or simply ideas) and quickly create client/project extranets.

Cost: Free/Commercial  
Available: Hosted

[www.basecampHQ.com](http://www.basecampHQ.com)

**90=** **Elgg**  
*Social engine*



Previous rankings:  
2009: 53<sup>rd</sup> =  
2008: -  
2007: 40<sup>th</sup>

Open source platform + plugins to create social environments – social networks, social learning environments, et

Cost: Free  
Available: Download  
Platform: LAMP

[www.elgg.org](http://www.elgg.org)

**90=** **Keynote**  
*Presentation software*



Previous rankings:  
2009: 48<sup>th</sup>  
2008: 65<sup>th</sup>  
2007: 72<sup>nd</sup>

Cinema-quality presentation software

Cost: Commercial  
Available: Download  
Platform: Mac

[www.apple.com/learn2/keynote](http://www.apple.com/learn2/keynote)

**90=** **Picnik**  
*Photo editing tool*



Previous rankings:  
2009: 71<sup>st</sup> =  
2008: -  
2007: -

Easy to use yet powerful editing tools. Get creative with oodles of effects, fonts, shapes, and frames..

Cost: Free and commercial  
Available: Download  
Platform: Windows

[www.picnik.com](http://www.picnik.com)

**90=** **TeacherTube**  
*Video hosting & sharing*



Previous rankings:  
2009: 64<sup>th</sup> =  
2008: 80<sup>th</sup>  
2007: 57<sup>th</sup>

A place where you can host, tag and share instructional videos

Cost: Free  
Available: Hosted

[www.teachertube.com](http://www.teachertube.com)

**95=** **iMovie**  
*Video editing software*



Previous rankings:  
2009: 88<sup>th</sup> =  
2008: 66<sup>th</sup>  
2007: -

Makes viewing and working with video as intuitive as enjoying your photos, part of Apple iLife Suite

Cost: Commercial  
Available: Download  
Platform: Mac

[www.apple.com/iife/imovie](http://www.apple.com/iife/imovie)

**95=** **ipadio**  
*Phonecast live to the Web*



Previous rankings:  
2009: -  
2008: -  
2007: -

ipadio allows you to broadcast from any phone to the Internet live

Cost: Free  
Available: Online

[www.ipadio.com](http://www.ipadio.com)

**95=** **Outlook**  
*Email software*



Previous rankings:  
2009: 67<sup>th</sup>  
2008: 38<sup>th</sup>  
2007: 17<sup>th</sup>

This email client is part of the Microsoft Office suite.

Cost: Commercial  
Available: Download  
Platform: Windows

[office.microsoft.com/outlook](http://office.microsoft.com/outlook)



**95=** **Toondoo**  
*Create comic strips*



Create and share your own comic strips

Cost: Free  
Available: Online

[www.toondoo.com](http://www.toondoo.com)

Previous rankings  
2009: -  
2008: -  
2007: -

**95=** **TypePad**  
*Blogging tool*



A blogging service with a number of pricing plans as well as extra functionality like storage space, scheduling of postings etc.

Cost: Commercial  
Available: Hosted

[www.typepad.com](http://www.typepad.com)

Previous rankings  
2009: 88<sup>th</sup>  
2008: 44<sup>th</sup>  
2007: 57<sup>th</sup>

**95=** **Udutu**  
*Online course authoring tool*




Create courses quickly and easily either on your own or collaboratively with others. Easily import existing content

Cost: Free authoring tool; small per screen charge for hosting  
Available: Online

[www.udutu.com](http://www.udutu.com)

Previous rankings:  
2009: 64<sup>th</sup>=  
2008: -  
2007: -

**95=** **Voxopop**  
*Talkgroups*



Voxopop talkgroups let you discuss your interests and passions with people using your real voice.

Cost: Free  
Available: Online

[www.voxopop.com](http://www.voxopop.com)

Previous rankings  
2009: -  
2008: -  
2007: -

**95=** **Wetpaint**  
*Wiki tool*

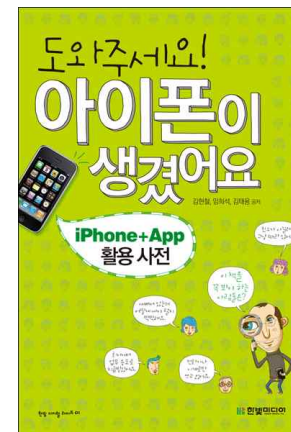
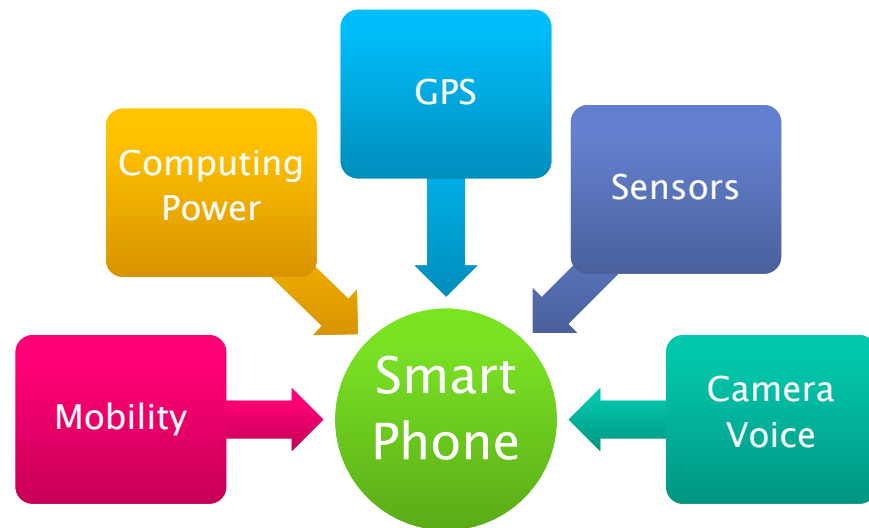


A service to create free wikis, simple to start; easy to build and fun to share

Cost: Free  
Available: Hosted

[www.wetpaint.com](http://www.wetpaint.com)

Previous rankings:  
2009: 50<sup>th</sup> =  
2008: 44<sup>th</sup>  
2007: -



- Organization, Scheduling

- 수업 스케줄, 숙제 마감일 관리, 메모 및 아이디어 정리 및 관리, to-do list 관리

- Utilities

- 수업에서 사용될 수 있는 다양한 도구들. 그래프 계산기, 터치 계산기, 리모트 PC, 단위 변환기 등

- Communication

- 친구들, 학교 구성원들과의 효과적인 의사소통. 소셜 네트워크

- Media

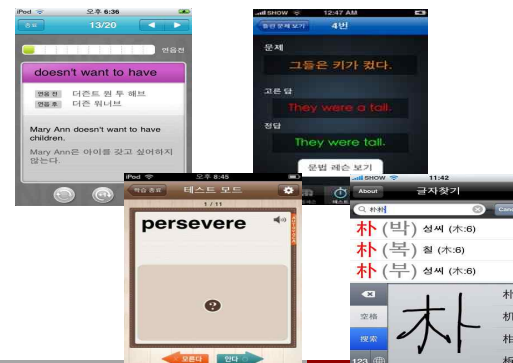
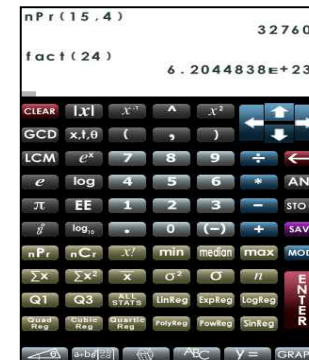
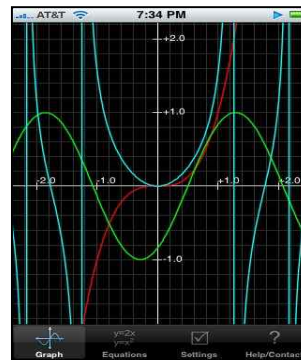
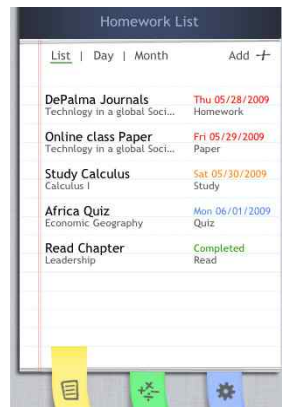
- 전자책(e-book)리더기와 같이 텍스트, 동영상 교육정보를 볼 수 있도록 하는 도구

- Teaching Tools

- 수업에 실제 사용될 수 있는 도구

- References

- 사전, 백과사전과 같은 참고 자료



# iPAD for 디지탈라이징

The New York Times

Apple Says Medical Leaders

By MIGUEL HELFT 48 min  
Steven P. Jobs, the co-founder and chief executive of Apple, is taking a leave of absence, a year after his return from a liver transplant.

Defying Conventions

By CLAIRE CAIN MILLER  
Shopping skeptics said they never buy certain things: diamond rings, cars — they needed to see the person. They were wrong: companies have found those fields.

But some purchases are mostly offline, including

ENTHRALLING  
— THE INDEPENDENT

- Papers
- Search Google
- ACM
- ADS
- arXiv
- Google Scholar
- IEEE Xplore
- JSTOR
- PubMed
- Web of Science
- // Tr print
- pushM
- trans
- rotat
- scale
- print
- popMa
- print

1.0000  
0.0000  
-00.5000  
-00.0000  
1.0000  
0.0000

Untitled

The most unique, easy to use, and comprehensible handwriting application is finally Here!  
With UPAD, you can now complete the things you thought was impossible with your iPad.

Equipped with the best handwriting engine in the world, UPAD will surprise you when you start to write on it with a stylus pen or your finger — because it brings a feeling very close to writing on actual paper!

UPAD promises smoothness and speed, on top of countless differentiated features from other similar apps.

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$$\sqrt{2x^2+9y}$$

1/3



Journal of Biology

Comment  
Are we training pit bulls to review our Virginia Walbot

Address: 2150 University of Biology, Stanford University, Stanford, CA 94305

Published 9 March 2009  
Journal of Biology 2009, 8(3):1911-1912 (doi:10.1098/rstb.2009.0034)  
The abstract version of this article is available online at <http://jrb.royalsocietypublishing.org>  
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Abstract

Good early training of graduate students and postdoctoral fellows is essential for the future generation of researchers in the field of biology.

After having trained with a distinguished senior review of a manuscript representing years of work by graduate students and postdoctoral fellows on a critically important question? Unlikely as it seems, it is essential to ensure the work is of high quality and that the reviewer is using the time and resources wisely. Before discussing the issue of labor and noting that the manuscript can only be recommended with substantial more data, providing a detailed point of view. The other two reviews may be favorable, even recommending publication with the reviewer, but there is an other issue that is not mentioned in the review? Your manuscript is flawed, and the reviewer does not understand what you are saying.

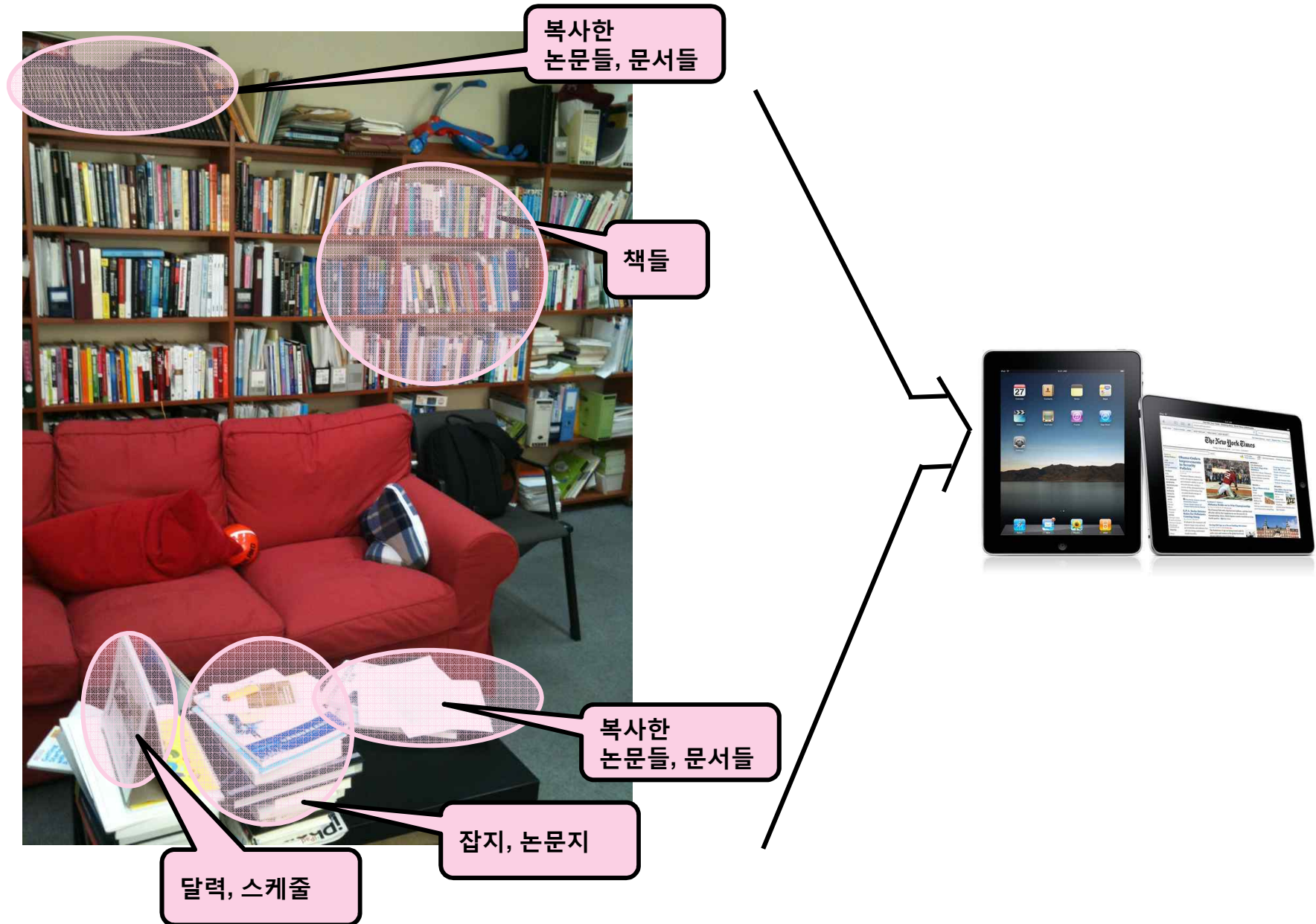
Journal of Biology

Are we training pit bulls

Virginia

J. Biol. 2009 vol





# 사례

- 식당에서 음식 주문의 예
  - 아마존 Kindle의 하이라이트 공유, 북마크 공유
  - 국내 모 기업의 신입사원 연수 사례
  - 트위터, 페이스북의 수업 활용 사례
  - ...
- 
- 목적이 구체적이고 명확한가
  - 여러 단위 정보들이 네트워크로 연결되어 새로운 정보와 서비스가 만들어지는가 (e-시대에는 불가능했던)

# 나의 사례

## 데이터로 표현하는 세상(GEQR03 9-00)

+ 수강인원 : 70 명

+ 응답자수: 68 명 [ 문항보기 ]

문항구분	번호	평균	표준편차
자기평가	1	4.22	1.02
자기평가	2	2.79	1.36
자기평가	3	3.44	1.10
자기평가	4	4.22	0.88
자기평가	5	4.35	0.75
강의운영	1	4.32	0.76
강의운영	2	4.31	0.78
강의운영	3	4.09	0.93
강의운영	4	4.26	0.82
강의운영	5	4.01	1.11
강의내용	1	4.38	0.73
강의내용	2	4.38	0.75
강의내용	3	4.06	0.91
강의내용	4	4.29	0.73
강의내용	5	4.34	0.84

## + 개설대학/대학 전체 통계

구분	수강인원	응답자수	학생의 자기평가 평균	공동 평균	외국어 평균	전공 지도 평균	전체 평균
교양교육원 (개설학과)	8,773	8,744	3.72	4.14	4.28	0.00	4.2
교양교육원(관) (개설대학)	8,773	8,744	3.72	4.14	4.28	0.00	4.2
학부교원전체	116,003	105,303	3.95	4.26	4.23	3.15	4.25

\* 수강인원보다 응답자수가 많은 경우는 Team Teaching 과목입니다.

## + 개방형 설문결과

### - 1문항 -

### [결과보기]

1. 수업 전반에 관한 소감을 자유롭게 기술하여 주시기 바랍니다.  
(예, 담당교수에게 하고 싶은 말, 특별히 좋았던 점, 특별히 아쉬웠던 점 등)

Please comment about the class in general. (e.g, requests to the professor, what you liked most about the class, what you didn't like, etc.)

나는 이 과목을 매주 예습 또는 복습하였다.

① 1시간 미만 ② 1시간 이상~2시간 미만 ③ 2시간 이상~3시간 미만 ④ 3시간 이상~4시간 미만 ⑤ 5시간 이상

자기평가2 Every week I reviewed the previous week's lessons and/or prepared for the next week's lessons.

새로운 시도

① Less than 1 hr ② Between 1 hr ~ 2 hrs ③ Between 2 hrs ~ 3 hrs ④ Between 3 hrs ~ 4 hrs ⑤ More than 5 hrs

자기평가3 나는 질문과 발표를 통하여 이 수업에 적극적으로 참여하였다.

I actively participated in class with questions and presentations.

자기평가4 나는 이 수업에서 부과되는 과제 및 시험에 최선을 다하였다.

I did my best on assignments and exams.

자기평가5 5. 나는 이 과목에서 다음의 학점을 예상한다.

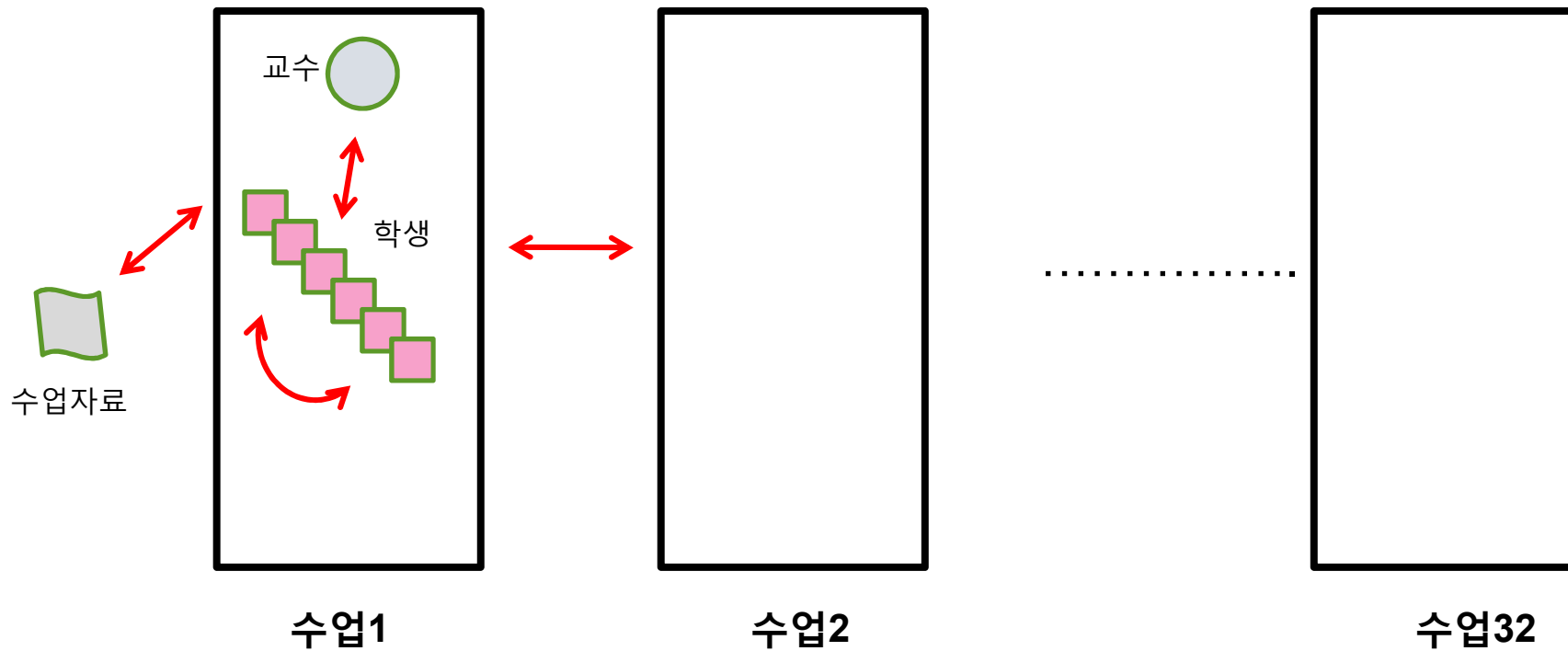
① F ② D+, D ③ C+, C ④ B+, B ⑤ A+, A

I expect the following grade for this unit.

( ① F ② D+, D ③ C+, C ④ B+, B ⑤ A+, A )

강의운영1 담당교수는 강의준비를 충실히 하였다.

The professor was well prepared for each lecture.



### 문제점:

- Communication 이 부족했다.
- 학생들간의
- 교수와 학생간의
- 수업들 간의

### 해결:

- Clicker 사용을 통한 즉각적 의사소통 및 피드백
- Twitter사용을 통한 연결 이어나가기
- Wiki사용을 통한 교재 함께 구성하여 나가기
- Peer Review통한 사회적 구성주의



## 고려할 점

- 너무 새로운 것은 교수/학생 모두에게 적응 시간과 노력이 필요
- 새로운 기술과 환경에 대한 교수/학습 방법 전략 미비, 혼란
  - 새로운 기술/환경 도입을 위한 구체적 목표 부재
  - 도구만 먼저 제공해주고, 그 다음에 교수학습을 그 도구에 맞추려고 하는 경우. 모든 책임을 교사에게만 전가.
  - 사적 공간의 간섭효과
- 단말기가 필요할 것. 신중한 고려 필요.

김현철

고려대학교 컴퓨터교육과



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[hkim64@gmail.com](mailto:hkim64@gmail.com)

<http://ini.korea.ac.kr>

## 질의 응답 토론