

Integration of E-Learning 2.0 into Education and Training

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Recent Trends

- Information explosion
- Net Generation and iGeneration
- Web 2.0 and social media
- Learner-centered design
- Connectivism
- Personal learning environment
- Open learning

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Everyone creates and publishes content



On average, each of us creating 225MB every day.

Source: Nick Floro (2012) The Future of Learning. MacWorld

KNOWLEDGE GOES FURTHER IN THE INTERNET AGE

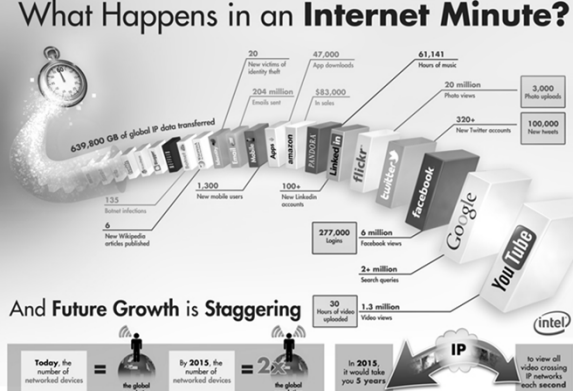
In one month on Facebook:

30 BILLION PIECES OF CONTENT SHARED

BETWEEN 900 MILLION USERS

Source: Power to the Online People.
<http://open-site.org/blog/power-to-the-online-people/>

What Happens in an Internet Minute?



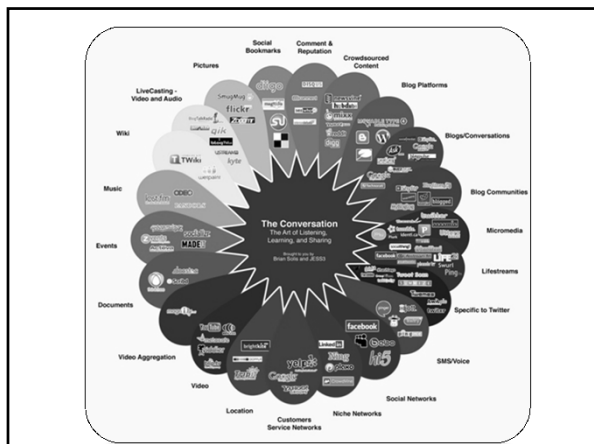
And Future Growth is Staggering

Today, the number of networked devices = the global population

By 2015, the number of networked devices = 2x the global population

In 2012, it would take you 5 years to view all video crossing IP networks each second

Source: <http://scoop.intel.com/what-happens-in-an-internet-minute/>



Net Generation

- Born after 1980
- Also called Y Generation or Digital Natives
- Highly networked, interactive, and social
- See technology as an essential part of their lives
- 1st generation to be producers of content, not just consumers
- Prefer multi-tasking and quick, non-linear access to information
- Visually-oriented
- Rely heavily on communications technologies to access information and to carry out social and professional interactions.

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iGeneration

- Generation Z or iGeneration – after 1997
- iGeneration has no OFF switch
- Technology is a part of their DNA
- Represent the “individualized” nature of their media
- Early introduction to technology
- Text me, don’t call me. Prefer texting and social networking for communicating than talk face-to-face or on the phone
- Desire for immediacy
- Technology is not a tool, but a part of life
- Ability to use technology to create a vast array of content

Sources: Jayson, S. iGeneration has no off switch. USA Today, Feb 10, 2010
 Nizram. Rise Of The iGeneration: Don't Call Me, Text Me. Feb 8, 2010

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Learner-Centered Design

- Puts the learner and his/her learning process in the center of every decision during design and delivery
- Caters for diverse learner needs and characteristics
- Offers openness to experience and personal growth, co-creation of knowledge, and personal regard for each individual
- Facilitates learners in becoming active, self-directed and self-responsible participants in the learning process, in which peers and the instructor serve as facilitators, motivators and personal resources

Sources: Learner Centred Design: Learning/Design as Reflection and Adaptation.
<http://www.practicalpatternsbook.org/book/learner-centred-design>

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Connectivism

- Knowledge is distributed
- Knowledge is interconnected
- Knowledge is personal
- Learning is a process of connecting specialized nodes or information sources

– Steven Downes

“...a form of knowledge and a pedagogy based on the idea that knowledge is distributed across a network of connections and that learning consists of the ability to construct and traverse those networks.” – George Siemens

Source: <http://www.elearnspace.org/media/ProfessionalDevelopment/player.html>

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Personal Learning Environment


- Personalization of learning
- Learner-centered technologies
- Learners develop, control, and organize their own PLE lifelong learning
- Collaborative, informal, and on-demand learning

Denise Vincent (2010) Emerging technologies and the future of post-secondary education. www.slideshare.net/deevin/

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Personalized Learning

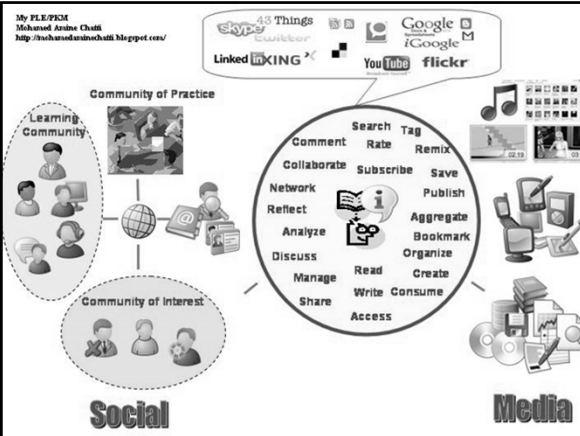
New technologies generate individual learning profiles and custom solutions that ensure concept mastery



Today, our schools must prepare all students for college and careers - and do far more to personalize instruction and employ the smart use of technology.


- Arne Duncan, United States Secretary of Education

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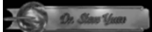


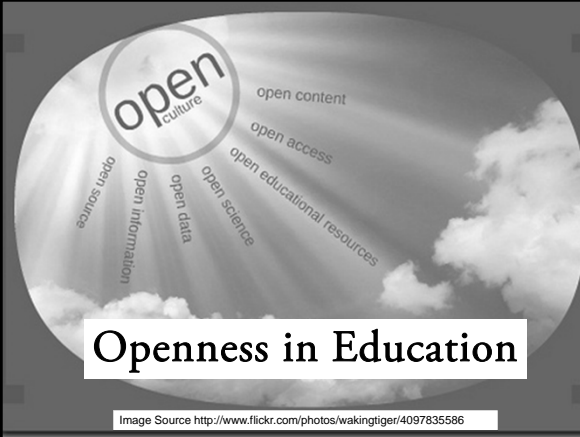
Social **Media**

An Example of PLE



Source: <http://edtechpost.wikispaces.com/PLE+Diagrams>

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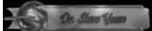


Openness in Education

Image Source <http://www.flickr.com/photos/wakingtiger/4097835586>


Open Learning Movements

- OpenCourseWare Consortium
- MOOC
- edX
- Khan Academy
- OpenStudy
- OER Glue
- CK-12
- Flat World Knowledge
- Curriki

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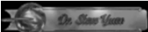
E-Learning 1.0

- Includes all forms of electronically supported or enhanced teaching and learning
- The early promise of e-learning has not been fully realized ... (O'Hara, 2006; Downs, 2005)
- Learning content is provided by courseware authors, structured into courses by learning management system (LMS), and consumed by students
- Employs the use of LMS that is often cumbersome and expensive – and which tends to be structured around courses, timetables, and testing
- Often driven by needs of the institution rather than the individual learner
- Traditional e-learning is not flexible and is not integrated with the Web

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E-Learning 2.0


- The second generation of e-learning
- Takes a “small pieces, loosely joined” approach that combines the use of discrete but complementary Web 2.0 tools to support the creation of ad-hoc learning communities
- Uses socially based software: collaborative, iterative, inclusive (discussion) = knowledge building and sharing
- Includes: blogs, Wikis, podcasts, social tagging and forums



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E-Learning 2.0

- Allows learners to easily access content through search, aggregation, and tagging
- Capitalizes on many sources of content aggregated together into learning experiences and utilize various tools including online references, courseware, knowledge management, collaboration and search
- Allows learners to create content and to collaborate with peers to form a learning network with distribution of content creation and responsibilities




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E-Learning 2.0 Features


- Facilitation of content authoring
- Knowledge and information sharing
- Diversity of learning content and media
- Ease of collaborative learning

Source: Trondsen, E. (2006). Perspectives on eLearning 2.0. Learning on Demand. SRI Consulting Business Intelligence. <http://goo.gl/yG1vj>



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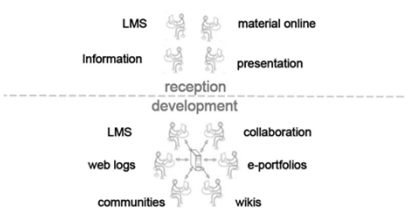
E-learning 2.0 environments equip learners with a range of technologies which allow users to contribute content, connect, communicate, and collaborate with other learners.



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From E-learning1.0 to E-learning 2.0

From distribution...




...to reflection and collaboration

Source: Ehlers, U.-D. (2009). Web 2.0 – E-Learning 2.0 – Quality 2.0? Quality for new Learning Cultures. International Journal for Quality Assurance in Education. ISSN: 0968-4883. Emerald Publishers.




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E-Learning 1.0	E-Learning 2.0
Top down and one way -- Reception	Bottom up, learner driven, peer learning -- Participation
Components – LMS, courseware, authoring tool	Blogs, podcast, wikis, social bookmarking, mash-ups, social networking tools
Learning platform	Personal learning environment (PLE)
Instructional content, Receiver	User-created content, Developer
Multimedia	Social networks and community of practice



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E-Learning 1.0	E-Learning 2.0
Deliver content to learners, primarily managed by an LMS	Create and share information and knowledge with other learners
Receive, read, and respond to learning content	Create content and collaborate with peers, interact and share their thoughts and comments
Quality is accessed by instructor	Quality is accessed by instructor, learners & peers
Inspection -- Tests	Reflection -- Tests, portfolios, learning products, & social interactions

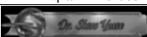
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E-Learning 2.0

Is essentially about:


- Social/Collaborative/Network learning environments
- User-generated content
- Aggregating (RSS) & tagging
- Knowledge sharing
- Personal learning environments
- Collective intelligence (Wisdom of the Crowds)
- Using a network of diverse technologies
- Creativity and innovation

Said Alsagoff (2009) E-LearningTalk.
<http://www.slideshare.net/zaid/elearning-talk>

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Learning Tools for E-Learning 2.0

- Mostly free
- Wikis
- Blogs
- Learning Activity Management System
- Virtual classrooms
- Podcasts
- RSS
- Mashups
- Content authoring
- Social bookmarking
- Social learning networks
- Personal learning spaces
- Virtual social worlds
- Open learning content

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E-Learning 2.0 in Training

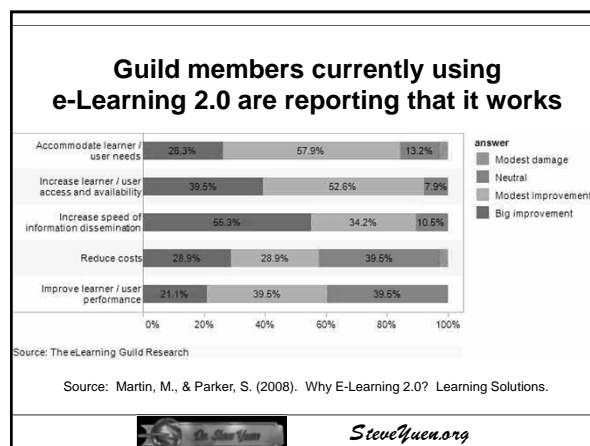
- A study by Guild Research (2008)
 - 40% of respondents indicate they are making some use of e-learning 2.0 approaches
 - 70% of respondents plan to apply more e-learning 2.0 approaches over the next 12 months
 - younger workers demand e-learning 2.0 approaches to performance support

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E-Learning 2.0 in Training

- A Study by Martin and Parker (2008)
 - those organizations using e-learning 2.0 are reporting positive results
 - 57% of Guild members believe that e-learning 2.0 has helped them accommodate learner needs
 - 65% report increased learner access and availability; and almost 66% have increased the speed of information dissemination
 - 95% of those organizations making significant use of e-learning 2.0 strategies report that their efforts have been worthwhile

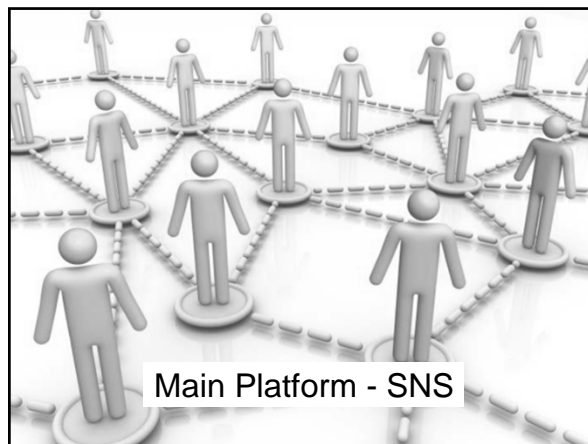
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My E-Learning 2.0 Study

- Involved the design, development, and implemented of two online courses based on e-learning 2.0 concepts
- Investigated the students' opinions, experiences, and interactions in online courses based on an e-learning 2.0 instructional approach
- Examined students' preferred Web 2.0 tools in online courses

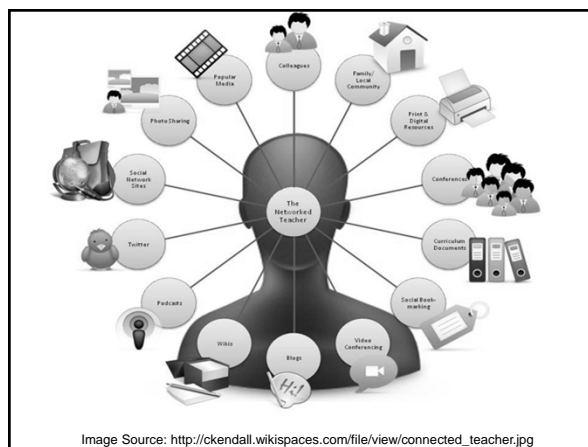
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Collective Intelligence

Knowledge is distributed
 Knowledge is interconnected
 Knowledge is personal
 Learning is a process of
 Connecting specialized nodes
 to information sources

— Steven Downes



E-Learning 2.0 Course Design

- Private social networking site
- Class blog
- Students' blogfolios
- Online forums and presentations

- Podcast channel
- Social bookmarking
- Wiki
- YouTube videos
- Mashup
- Tweets

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Students Opinions on E-Learning 2.0 Courses

	Item	Percentage in a 5-point Likert scale					Mean & SD (n=25)	
		SD	D	U	A	SA	M	SD
1	E-learning 2.0 instructional approach allows learners to express individuality and creativity.	4	0	0	40	56	4.4	0.9
2	E-learning 2.0 instructional approach encourages learner-centered activities.	4	0	0	38	68	4.6	0.9
3	E-learning 2.0 instructional approach provides collaborative learning opportunities.	4	0	4	24	68	4.5	0.9
4	E-learning 2.0 instructional approach promotes knowledge sharing.	4	0	0	28	68	4.6	0.9
5	E-learning 2.0 instructional approach promotes class communications.	0	8	4	28	60	4.4	0.9
6	E-learning 2.0 instructional approach facilitates group learning.	0	4	8	40	48	4.3	0.8

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Students Opinions on E-Learning 2.0 Courses

Item	Percentage in a 5-point Likert scale					Mean & SD (n=25)	
	SD	D	U	A	SA	M	SD
7 E-learning 2.0 instructional approach allows learners to create content and to collaborate with peers to form a learning network.	0	4	0	36	60	4.5	0.7
8 E-learning 2.0 instructional approach capitalizes on many sources of content aggregated together into learning experiences.	0	4	4	36	56	4.4	0.8
9 E-learning 2.0 instructional approach allows learners the opportunity to configure their personal learning environments.	4	0	8	32	56	4.4	0.9
10 E-learning 2.0 instructional approach provides social learning environments.	4	0	0	40	56	4.4	0.9
11 E-learning 2.0 instructional approach provides learners with opportunities to interact with the content and share their thoughts and comments with the instructor and other learners.	4	0	4	44	48	4.3	0.9
12 E-learning 2.0 instructional approach is effective in online/hybrid learning environments.	4	0	0	32	64	4.5	0.9



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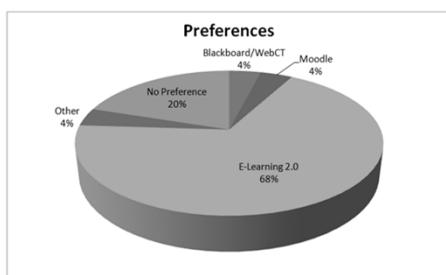
Usefulness of Web 2.0 Tools

Web 2.0 Tool	Percentage in a 5-point Likert scale					Mean & SD (n=25)	
	NS	NU	SU	U	VU	M	SD
1 Blogfolio	0	4	16	36	44	4.2	0.9
2 Chat	0	8	52	32	8	3.4	0.8
3 Class Blog	4	12	28	24	32	3.7	1.2
4 Class Social Network	0	0	4	16	80	4.8	0.5
5 Forums	0	0	28	36	36	4.1	0.8
6 Groups	8	20	40	32	0	3.0	0.9
7 Podcasts	12	4	8	36	40	3.9	1.3
8 Photos	12	4	8	36	40	3.6	1.1
9 RSS	12	8	28	32	20	3.4	1.3
10 Social Bookmarking	0	0	32	32	36	4.0	0.8
11 Twitter	0	32	20	24	24	3.4	1.2
12 Videos	4	0	8	44	44	4.2	0.9
13 Wiki	8	0	24	40	28	3.8	1.1



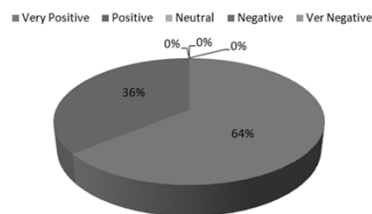
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Preferences in Taking Online Courses



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Overall Experience About the Online Course Based on e-Learning 2.0 Concepts



Mean = 4.6 Standard Deviation = 0.5



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Overall Experience on the E-learning 2.0 Course

	Very Poor %	Poor %	Average %	Good %	Excellent %
User-interface	0	0	4	36	60
Design and layout	0	0	0	40	60
Content	0	0	0	16	84
Reliability	0	0	0	36	64
Support	0	0	0	48	52

Mean = 4.6 Standard Deviation = 0.3



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Connectedness Subscale of Classroom Community

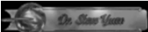
Item	Percentage in a 5-point Likert scale					Mean & SD (n=25)	
	SD	D	N	A	SA	M	SD
1 I feel that students in this course care about each other.	0	0	12	44	44	4.3	0.7
3 I feel connected to others in this course.	0	8	12	32	48	4.2	1.0
5 I do not feel a spirit of community.	48	36	12	4	0	4.3	0.8
7 I feel that this course is like a family.	0	12	24	44	20	3.7	0.9
9 I feel isolated in this course.	44	48	0	8	0	4.3	0.8
11 I trust others in this course.	0	0	12	48	40	4.3	0.7
13 I feel that I can rely on others in this course.	0	0	8	52	40	4.3	0.6
15 I feel that members of this course depend on me.	0	24	32	36	8	3.3	0.9
17 I feel uncertain about others in this course.	36	40	24	0	0	4.1	0.8
19 I feel confident that others will support me.	0	0	8	44	48	4.4	0.6
Overall						4.1	0.8



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Learning Subscale of Classroom Community

Item	Percentage in a 5-point Likert scale					Mean & SD (n=35)	
	SD	D	N	A	SA	M	SD
2 I feel I am encouraged to ask questions.	0	0	4	48	48	4.4	0.6
4 I feel that it is hard to get help when I have a question.	44	56	0	0	0	4.4	0.5
6 I feel that I receive timely feedback.	0	0	4	56	40	4.4	0.6
8 I feel uneasy exposing gaps in my understanding.	16	60	20	4	0	3.9	0.7
10 I feel reluctant to speak openly.	44	52	4	0	0	4.4	0.6
12 I feel that this course results in only modest learning.	52	40	8	0	0	4.4	0.7
14 I feel that other students do not help me learn.	44	52	4	0	0	4.4	0.6
16 I feel that I am given ample opportunities to learn.	0	0	0	48	52	4.5	0.5
18 I feel that my educational needs are not being met.	56	44	0	0	0	4.6	0.5
20 I feel that this course does not promote a desire to learn.	64	36	0	0	0	4.6	0.5
Overall						4.4	0.6

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Perception of Learner-to-Instructor Interaction

Item	M	SD
4 The instructor frequently offers opinions to students.	5.6	1.6
5 Students often state their opinions to the instructor.	5.6	1.4
6 The instructor frequently asks the students questions.	5.4	1.9
7 Interaction between the instructor and the class is high.	5.8	1.7
8 The instructor seldom answers the student's questions.	6.5	0.9
9 Students seldom answer questions that the instructor asks.	6.2	1.3
10 The students often ask the instructor questions.	5.5	1.4
Overall	5.8	1.5

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Perception of Learner-to-Learner Interaction

Item	M	SD
11 The students seldom ask each other questions.	5.6	1.7
12 There is little interaction between students.	6.2	1.2
13 In class, students seldom state their opinions to each other.	5.9	1.3
14 Students seldom answer each other's questions.	6.4	0.5
Overall	6.0	1.2

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Perception of Overall Interaction

Item	M	SD
1 The level of interaction between all participants is high.	5.8	1.3
2 In general, the instructor is effective in motivating the students to interact in class.	6.4	0.9
3 Interaction is low in class.	5.9	1.4
Overall	6.0	1.2

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Conclusion

- Students' online course experience based on e-learning 2.0 concepts were very positive and encouraging
- Students preferred e-learning 2.0 environment because they could easily access course content, interact content with others, construct new knowledge, and collaborate with others to form a learning network
- Students could communicate with others and access knowledge in ways that encouraged creative and reflective practices that extended beyond traditional online learning
- Students had very positive and favorable feelings toward overall interaction, learner-to-instructor interaction, and learner-to-learner interaction

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Final Thoughts

- Is not about further development nor about a new technology. Is a new model of learning or a new, separate, innovative variety of e-learning
- Describe a number of developments, trends and points of view, which require change from teaching to learning
- Learning = generating content + communicating with people (Learner driven, focused on group learning)
- Build on the metaphor of "participation" – learning is perceived as an interlinked, social process in which Web 2.0 tools are used to develop learning results through collaboration and communication

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Final Thoughts

- Focus on **constructive** activities
Allow learners to interact with content, to share their thoughts and comments with instructors and other learners, to gain from their learning experiences, and construct their own knowledge.
- Create **personal learning environments**
Enable the participation and collaboration of learners in content creation, sharing, and interaction.
- The future of **LMS**



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The End

Questions or Comments?

My Blog - <http://stevetyuen.org> 



My Tweets - <http://twitter.yuen.us>



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