

Connectivism: Connecting with George Siemens



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Connectivism: A Learning Theory

proposed by George Siemens and Stephen Downes

- Learning network contains nodes & connections
- Emphasizes the learner's ability to navigate the information: the pipe is more important than the content within the pipe (Siemens, 2005).
- Principles were integrated from chaos, network, complexity, and self-organization theories (Siemens, 2004).



Connectivism

- Knowledge is networked and distributed, and the act of learning is in the creation and navigation of networks.
- Learning is actionable knowledge.
Learners:
 - exploit the weak ties between nodes
 - recognize the patterns
 - connect to the small world of individual knowledge; meaning making
 - extend personal network.

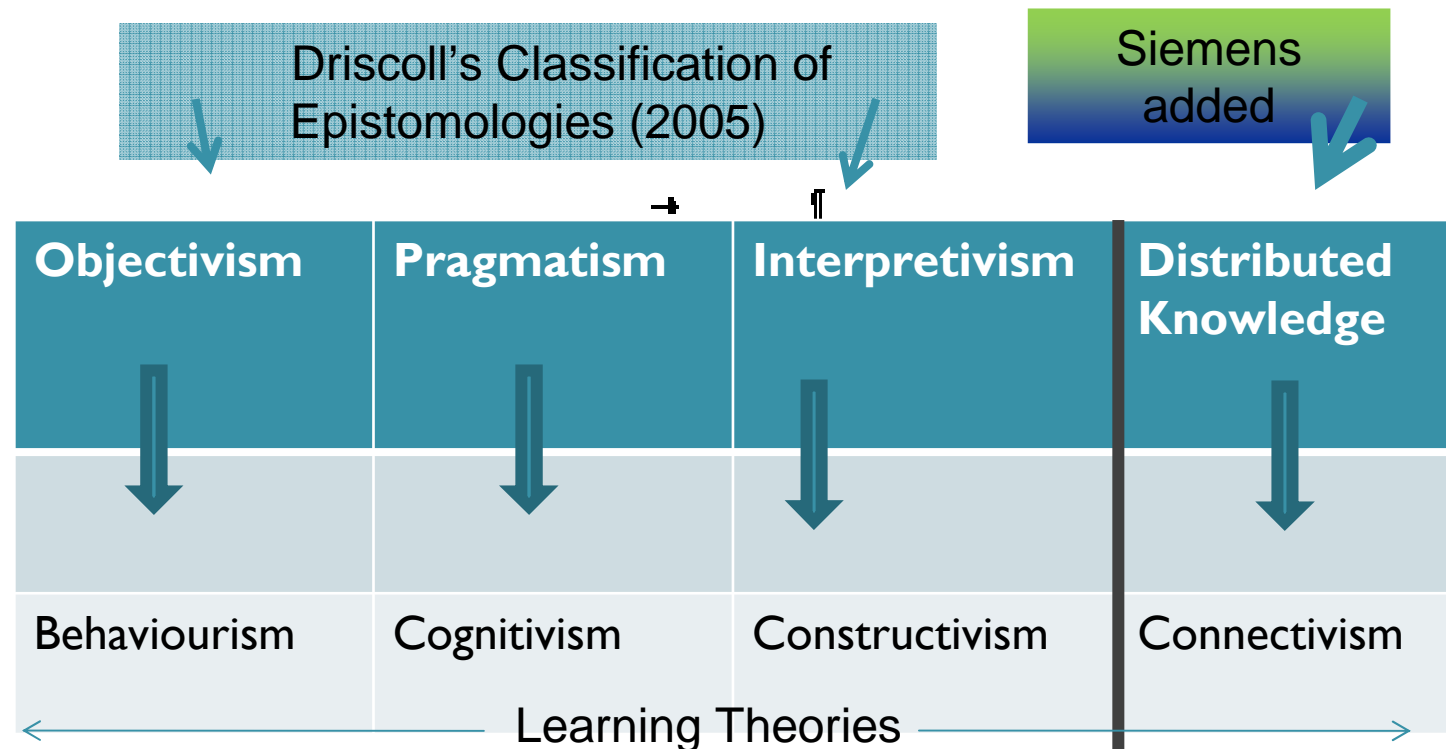
Rhizomes as a Metaphor for Learning



- *The rhizome is an acentered, nonhierarchical, nonsignifying system, without an organizing memory or central automaton, defined solely by the circulation of states. (Funch, 2004).*

Connectivism and Epistemologies

Epistemologies and Learning Theories



Constructivism vs. Connectivism

Property	Constructivism	Connectivism
How learning occurs	Social, meaning created by each learner (personal)	Distributed within a <u>network</u> , social, <u>technologically</u> enhanced, recognizing and interpreting <u>patterns</u>
Influencing factors	Engagement, participation, social, cultural	<u>Diversity</u> of network, strength of <u>ties</u> , context of occurrence
Role of memory	Prior knowledge remixed to current context	Adaptive patterns, representative of current state, <u>existing in networks</u>
How transfer occurs	Socialization	<u>Connecting</u> to (adding) nodes and growing the network (social/conceptual/biological)
Types of learning best explained	Social, vague (“ill defined”)	Complex learning, rapid changing core, diverse knowledge sources



Theory into Practice

- Principles for ID

- Assumptions/principles for instructional design:
 - providing the most diverse opportunities for learners to be able to connect with persons/ideas
 - building the learner's ability to navigate the information
 - adopting blogs, wikis, and other open, collaborative platforms as a two-way process
 - connecting to diverse, outside real-world conferences and experts
 - providing learners with a rich array of tools and information sources to use in creating their own learning pathways
 - using multiple forms of assessment.

(Examples from CCK09)



Theory into Practice

– Facilitating Learning

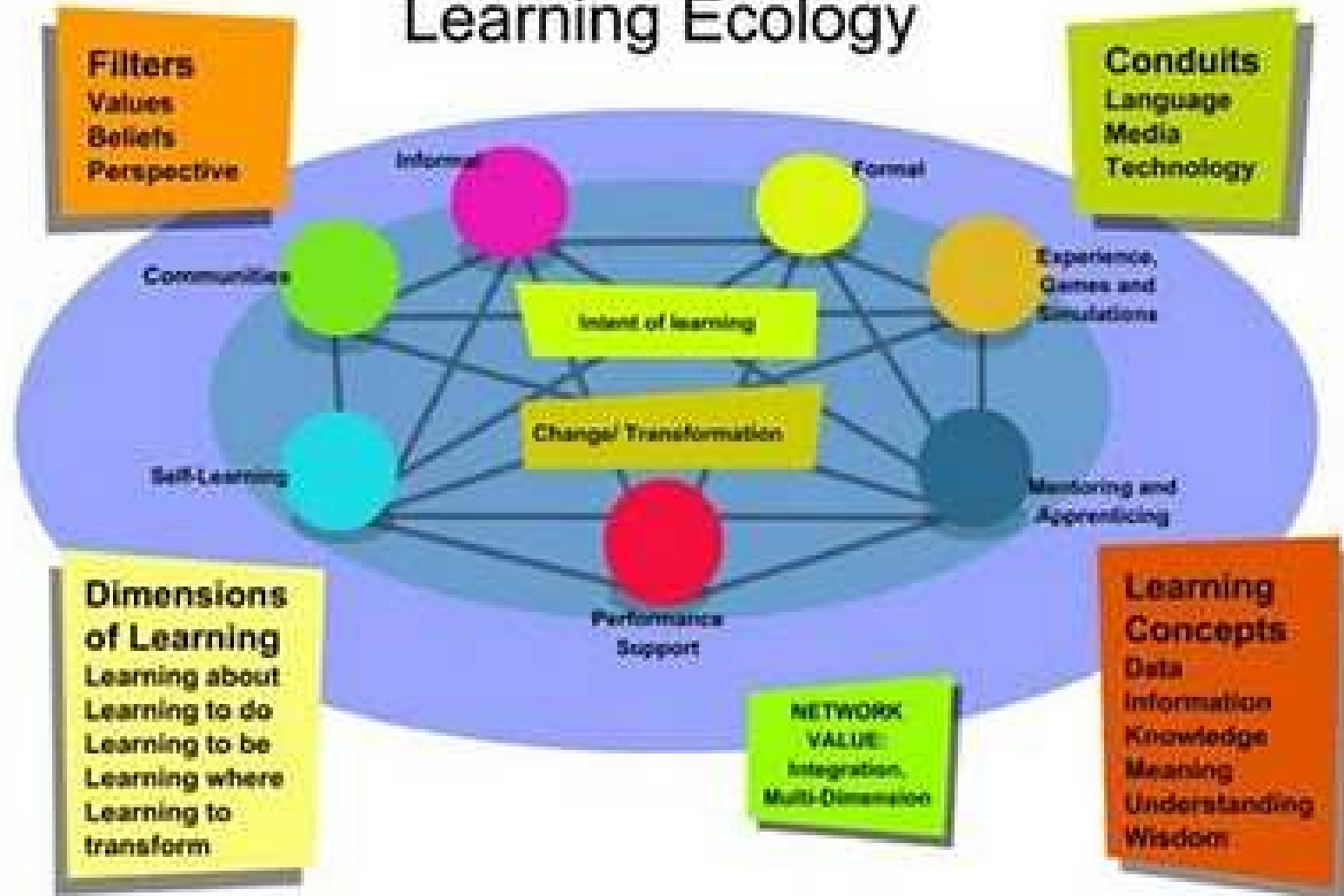
- How does a connectivist teach? A connectivist nurtures and maintains connections for students by:
 - a brief introduction to weekly activities through short podcast/paper/video or online presentation
 - moderating weekly discussions centered around readings
 - short presentations from guests, followed by discussion
 - daily emails summarizing key aspects of the existing conversation to students.



Context of the Theory

- Continual flow of data and information.
- Technologies change our ways of life, communication, and learning.
- Uncertainty of lifetime - career change.
- Behaviorism, cognitivism, and constructivism do not address the challenge of new knowledge creation.
- Connectivism explains new knowledge creation.

Learning Ecology



Connectivism: Process of creating network



Connectivism: Conclusions

What is next? George Siemens connects to our questions about the future of connectivism.

- Connectivism privileges connections made in networks via emerging technologies to support actionable knowledge and to accelerate a shift in education so that it is less hierarchical, more learner-centered, more widely communicated and more far-reaching.



Further Study

Downes, S. (2008, December 8). *Connectivism: A Theory of Personal Learning*. Retrieved from <http://www.slideshare.net/Downes/connectivism-a-theory-of-personal-learning>

Siemens, G. (2004). *Connectivism: A Learning Theory for the Digital Age*. *elearnspace*. Retrieved from <http://www.elearnspace.org/Articles/connectivism.htm>

Siemens, G. (2005, August 10). *Connectivism: Learning as Network-Creation*. ELEARNSPACE. Retrieved from <http://www.elearnspace.org/Articles/networks.htm>

Siemens, G. (2008). *New spaces and structures of learning: the systemic impact of connective knowledge, connectivism, and networked learning*. In unknown. Presented at the unknown, Portugal. Retrieved from http://elearnspace.org/Articles/systemic_impact.htm

Siemens, G. (2009a, September 12). *What is Connectivism? Week 1: CCK09*. Course Handout for CCK09, . Retrieved from https://docs.google.com/Doc?id=anw8wkk6fjc_14gpbqc2dt

Siemens, G., & Downes, S. (2009). *Connectivism & Connective Knowledge*. *Connectivism & Connective Knowledge*. Online Course, . Retrieved from <http://lrc.umanitoba.ca/connectivism/>

Siemens, G., & Tittenberger, P. (2009b). *Handbook of Emerging Technology for Learning*. online: N/A. Retrieved from http://umanitoba.ca/learning_technologies/cetl/HETL.pdf



Resources

The following resources are available in a digital reading room at [Athabasca University Library](#).

- George Siemens speaks to [The Changing Nature of Knowledge](#) (3:33 minutes)

- George Siemens speaks to

[The conflict of learning theories with human nature](#) (4:14 minutes)

- George Siemens speaks to [The impact of social software on learning](#)

(3:13 minutes)

- George Siemens speaks to [The Network is the Learning](#) (3:14 minutes)

- Stephen Downes speaks to [Connectivism and Organizations](#) (7:17 minutes)

- Sarah Stewart a student who dropped out of a course given by George and Stephen [responds to them](#) with her thoughts and communicates her experience as a student.



Epilogue

Rhizomatic Connections to cyber-space from this event

- Power Point (PPT) available to the second Ed.D. cohort
- Transcript in searchable pdf format
- Elluminate recordings including part 1 and part 2
- Link to a [digital reading room](#) with assortment of resources concerning connectivism
- Discussion forum in Moodle 803 site
- PPT available in Slideshare
- AUSPACE (Athabasca University) to store all the learning objects on connectivism. This will facilitate easy access to it from The Landing or external browsers.
- Convert the interview into MP3 audio format and upload it to AU itunes channel for really simple syndication (RSS).