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

Driscoll’s Classification of Epistemologies (2005)

Siemens added

Objectivism  Pragmatism  Interpretivism  Distributed Knowledge

Behaviourism  Cognitivism  Constructivism  Connectivism

Learning Theories
# Constructivism vs. Connectivism

(Siemens, 2009)

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

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

- Connectivism privledges 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


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).