Constructivism and Connectivism

EDG14 Developing learning resources II
Graduate Certificate in Teaching
Tonga Institute of Education

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Objectives

• Become aware of own theories of learning.

• Describe the implications of learning theories to teaching

• Describe what Constructivism is:
  – Essence and focus

• Describe what Connectivism is.
  – Essence and focus
Your own theory of learning
Just a theory

Theory

- A (mere) reaction to experience?
- A well-substantiated explanation for a phenomenon.

Why theories?

1. They help us:
   - explain
   - predict
   - live with a sense of security /certainty;
2. Provide motivation for action.
3. Can’t effectively change action without changing our theories (beliefs)
Objectivism

- That knowledge resides in the book/teacher’s brain. Therefore, it must be reproduced & memorised; passed on unchanged

- Emphasis on objectivity
  - Beliefs are not influenced by personal feelings or opinions; they are based on “facts”. Facts = what can be observed (available to senses)

- Teaching = talking/speaking/lecturing

- Learning = memorisation? listening?
Traditional theories about teaching & learning

• Teaching strategy - Teacher talks, students listen and ‘learn’; lecture type

• Teachers ask: “Is the answer right?”
Constructivism

1. During learning, the ONLY tools available to a student are his/her senses (e.g. sight, hearing, feel, taste, smell)

2. Learning is the result of an individual using his/her prior experiences to interpret new experiences.
   - We see the world through the lenses of our prior experiences (prior learning, culture, up-bringing, etc)
   - This interpretation involves the construction and deconstruction

3. Knowledge resides in the mind of the learner
Constructivism

• Just because learners are listening doesn’t mean they are learning!
• In constructivism: the learner is an active constructor of knowledge; the teacher is a facilitator of learners’ construction of knowledge
Constructivism

- The learner interprets new experiences using what he/she already knows about those experiences (prior experience/knowledge)

- Students construct knowledge in ways that make the best sense to them:
  - The teacher asks: “Is the answer meaningful?”
Constructivism

- If answer is meaningful and workable = right
- **Embraces diversity** of ideas –promotes free-diverse thinking
- Prior experience is important: can either enhance learning or prevents meaningful understanding. Expose student to diversity of experiences:
  - Family members, TV, newspapers, toys, books, videos, etc
Objectivism vs Constructivism
- Target of learning is:

- Knowledge to be transferred to the mind of the learner (Objectivism)
- Knowledge to be created in the mind of the learner (Constructivism).

Acquisition of Knowledge
We need new learning theories!

- Advancement in technology (tech. revolution) makes existing learning theories very limited.
- Change is fast:
  - Old (traditional) theories – behaviorism and constructivism were conceived to explain learning which was not heavily impacted by technology;
    - Information development was slow. ‘Knowledge life’ (from when knowledge is obtained to when it is obsolete) was measured in decades (Gonzalez, 2004).
  - Last 10-20yrs: technology is impacting our lives significantly (ATM-cards, e-mail, e-banking, e-learning, e-survey, driving license, Passports, EFTPOS, FB, Twitter, etc)
    - Knowledge life is decreasing very quickly. Good ideas become obsolete very quickly (e.g. Where is Bebo now?, CDs, USB-flash; mobile phones).
- World is more complex now.
  - Envision Tonga in 15-20 yrs time!
Tonga of 2020

- More complex

- Advances in technology:
  - Especially the ubiquity of the mass media and the Internet
  - Traditional ideas & knowledge become outdated/obsolete quickly
    - Due to shortening knowledge half-life
  - Information overload

- Are we preparing students for their future?
The theory of Connectivism

• A theory for a world that is complex

• What’s important in a fast-changing world:
  – the ability to seek information out in a system when it is needed, to ascertain whether or not it is still acceptable, and to recognize the connections present
Connectivism is

- View or theory of learning
- Knowledge resides in non-human objects (e.g. computers, web, internet, networks, etc)
- Emphasis on the connection than on content

YouTube video: Teemu Arina on *What is Connectivism*
What is learning (in connectivism)?

- Knowledge is networked (exists in networks).
- Learning is the ability to:
  - seek out information within a network when needed,
  - ascertain whether or not information is still current and acceptable
  - connect to others
  - recognize the connections present within a network

You Tube video: George Siemens on *What is learning?*
Connectivist learning starts

- When learner makes a connection, starts feeding information into a learning community (Kop and Hill, 2008)
In connectivism, knowledge is:

- Distributed (not located in any particular place)
- Consisted of network of connections
  - Cannot be transferred (Downes, 2006)
In networks

- People are **actively engaged with resources in communication with others in the network**

- Learning is enhanced by these 4 processes (Kop, 2010):
  - Aggregate resources
  - Relate to resources
  - Share resources
  - Create new resources

- Learning makes networks complex but the synergy of network makes learning manageable.
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<thead>
<tr>
<th>Constructivism</th>
<th>Connectivism</th>
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<tbody>
<tr>
<td><strong>Focus</strong></td>
<td>Learner seeking for information and knowledge that already exist; Best tools to use</td>
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<tr>
<td>Learner’s preparation for a wide variety of situations</td>
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<tr>
<td>Meaningful interpretations</td>
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<td><strong>Where knowledge resides</strong></td>
<td>In networks</td>
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<tr>
<td>In the mind of the learner</td>
<td></td>
</tr>
<tr>
<td><strong>Learning means</strong></td>
<td>To connect to others in a network</td>
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<tr>
<td>To construct.</td>
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<td>To interpret new information using what learner already knows.</td>
<td>To seek for knowledge when it is needed;</td>
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References


