

# Object Oriented Learning Objects

L'ingénierie pédagogique à l'heure des TIC

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## ***Online Learning***

- Characterized by the use of information and communications technology (ICT) to facilitate learning
- vs. e-learning, which also includes computer-based training (CBT)
- Two major aspects
  - online learning *content* – *what is being studied*
  - online learning *environments* – *how it is organized*

## ***Models of Learning Objects***

- The dominant paradigm (that nobody uses) – *learning objects*
- IEEE's Learning Technology Subcommittee: "any entity, digital or non-digital, which can be used, re-used or referenced during technology supported learning."
- Wayne Hodgins – learning objects are like Legos, that can be put together in different ways
- David Wiley – learning objects are like atoms

## *The Palm Tree and the Horse*

Learning objects  
not as collections  
or aggregations,  
but as elements in  
an ecosystem



## ***The Big Idea***

- E-learning not as static, course-based resources assembled and delivered by institutions...
- But rather, e-learning as dynamic, unstructured stream of learning resources obtained and organized by learners...
- E-learning as a *conversation* (*Cluetrain Manifesto*)  
<http://www.cluetrain.com/>

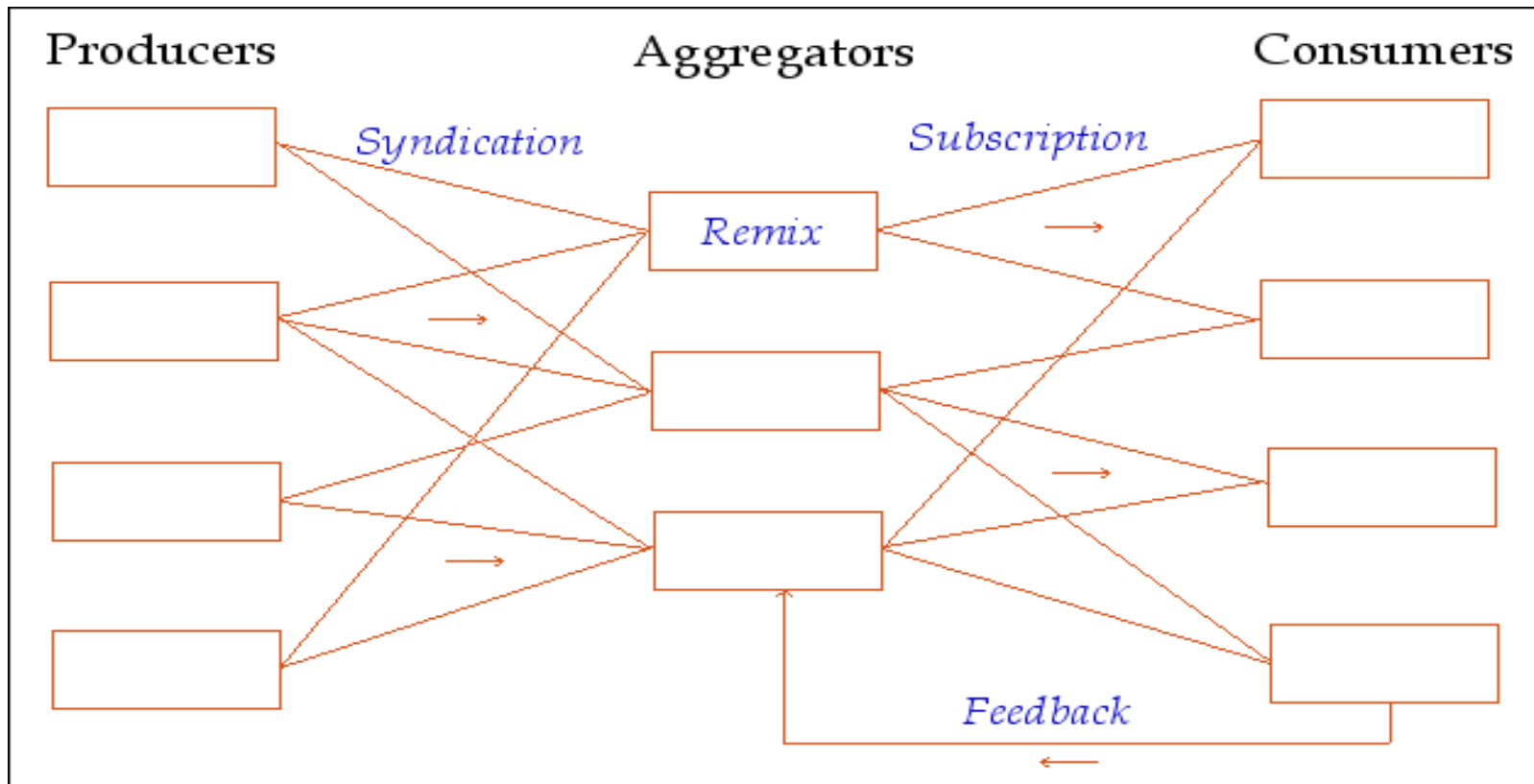
## ***Conversations***

- Weblogs... four million (or so) angst-ridden teen-aged girls can't be wrong
- RSS – we can't agree on what it's called, much less how it should be designed, but it works
- Open Archives Initiative – the radical proposal that people who pay for content should be allowed to read it
- Instant Messaging, Wiki, PostNuke, more...

## ***Aggregate, Reaggregate***

- While federated search is a single-layered search (the library mode), the harvest search is multilayered
- Think, for example, of *Google Hacks*
- My own contributions... Edu\_RSS  
[http://www.downes.ca/xml/edu\\_rss.htm](http://www.downes.ca/xml/edu_rss.htm) and DLORN  
<http://www.downes.ca/cgi-bin/dlorn/dlorn.cgi>
- Syndication, realized... <http://www.bloglines.com>  
<http://www.technorati.com> <http://www.feedster.com>

## ***The Network is the Search***





## ***RSS\_LOM***

- Simplified syndication of learning objects
- [http://www.downes.ca/xml/rss\\_lom.htm](http://www.downes.ca/xml/rss_lom.htm)
- sample file:
  - [http://www.downes.ca/xml/rss\\_lom\\_sample\\_rss20.xml](http://www.downes.ca/xml/rss_lom_sample_rss20.xml)
- Informal discussion group has been established, watch for details

## ***Community***

- ‘Learning Environments’... an application or social based framework into which learning resources are ‘fed’
- Examples: simulations, games, performance support systems
- Long-term – ubiquitous e-learning that follows the learner app to app, place to place (m-learning)

## *Staging the Future*

- The ‘learning browser’ – a learner based e-learning tool accessing multiple feeds from multiple providers...
- A more-or-less consistent content format using XML, XSLT, Javascript, CSS <http://www.downes.ca/dnd>
- Returning to the idea of ‘object oriented’ learning objects – and O-XML <http://www.o-xml.org/>

<http://www.downes.ca>