

# Personal Learning Environments

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Hämeenlinna, Finland, by Video



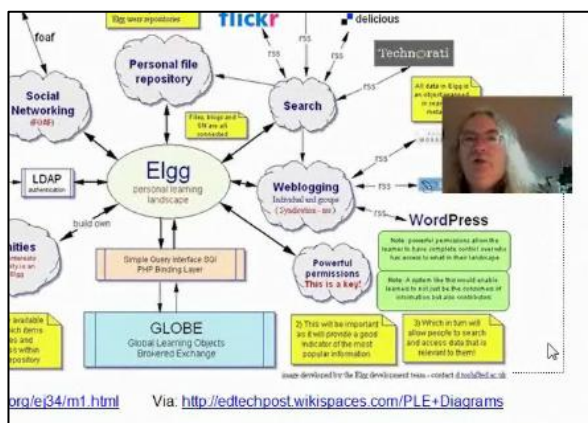
Hi, I'm Stephen Downes. You probably heard about the volcano that has affected northern Europe. That volcano's the reason why I'm not able to visit you in person today, although I would very much have liked to. I hope that this video will serve as a substitute and I hope to see you some time in the future.

Today I want to talk about the personal learning environment. You know, sometimes I have to justify these talks to my manager. I need to explain to them how it is that I'm learning things when I'm presenting things to people like you in Finland. But, what I need to tell them is that I need to be able to talk to educators, and not just that, to talk to people in the community, to find out what they do, how they learn things, how they make a living, how they get by in their day to day lives.

Now this is the central part to me of what a personal learning environment is, is learning through community, and how we learn through a community. The PLE is a technological tool, but it is simply a tool that allows us to do the sorts of things that we've done since prehistory in order to learn, in order to become a part of our community.

The PLE itself is something that has come out of community interaction. This is one of the many diagrams created around the PLE. As you can see, the idea here is to embed a person – indicated

through 'ELGG' in this case – into the community of different services.



What we're trying to do is create a different kind of knowledge. Knowledge in the VLE – in the typical learning management system – is typically static, declarative, authority-based. Like books. Like a lecture. Knowledge in the personal learning environment is dynamic, tacit, not declared, not explicit, created by people who are working inside the personal learning environment.

I've created my own personal learning environment over the years. It's called gRSShopper. Inside my administration I have the major functions of a PLE. For example, I have a list of feeds that I subscribe to. When I view these feeds I can harvest the content of the feed, and as you can see, the content comes in, it's analyzed, and put in to my database.

Once I have the content, then I start creating my own content inside my aggregator. I do this with my 'post creator'. These posts are the content that I create and I send out to people on the internet. Here's an example of a post that I sent out yesterday. It's a link to content, to an article in the Washington Post. I've written my own information about it, I've categorized it, and then I update the record and it's set to go.



Finally I have ways of publishing or sending my content to people out there in the world. The main way I do this is with my newsletter. My newsletter software takes the content, assembles it, and then puts it together into a newsletter. gRSShopper can also provide content syndication in the form of RSS feeds and other types of feeds, text content, web pages, and I'm working on other ways of syndicating the data as I speak.

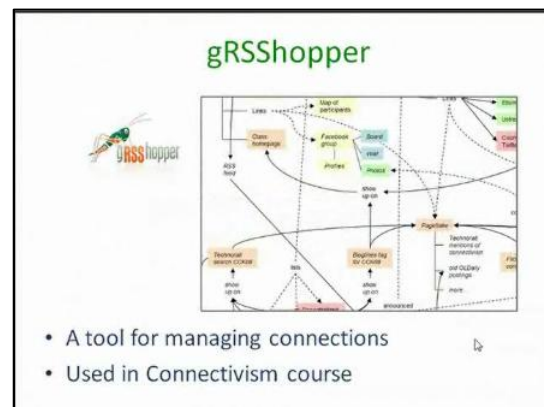
George Siemens and I used gRSShopper as a major component in the online connectivism course that

we taught in 2008 and 2009. This course advertised and delivered as a massive open online course. It was offered for university credit, but if you didn't want to pay the tuition fee, we didn't mind, you could sign up for the course anyways. We have 2200 people in the first year, and about 700 people in the second year.

The idea of this course is that there wasn't any centralized curriculum, there wasn't any set of required readings, there wasn't a set of classes that we marched through, but rather, people learned in their own way at their own time and what the course did is it offered a locus for them communicate and connect with each other, to share what they had learned on their own, and to create new learnings out of that sharing.

The idea here is that the learning wasn't something that we provided from ourselves to them, rather, the learning is something that they each gained on their own through their participation in the community.

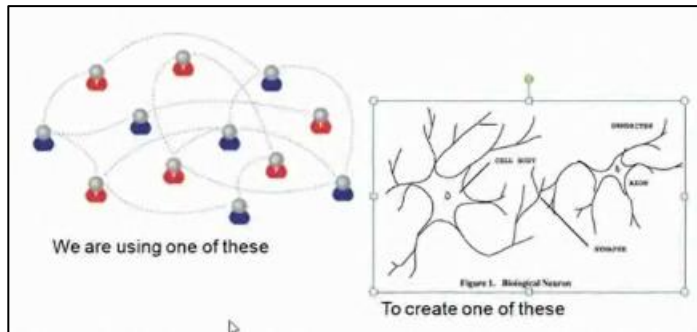
In the connectivism course we used gRSShopper as a central application, but it was by far not the only application that we used. We had students creating blogs in Blogger or Wordpress, using Facebook accounts, Second Life areas, and even more, all kinds of things, all connected through gRSShopper. The idea of this course was that people would organize themselves into a network, and there would be different kinds of personal learning environments, whether they be web, mobile, person-to-person, widgets, or whatever, connected



through different applications.

Now typically when people start talking in this way they start talking about social networks. They start talking about learning in social networks. That's not quite the approach that we want to take. We are using the social network, but the learning that we create through personal learning environments still happens in their selves. We are using one of these – a personal learning network – in order to create one of these – a neural network.

Learning isn't just the acquisition of facts, it isn't the acquisition of data, it's the creation of a new set of neural connections in the mind. That's the difference between learning in a personal learning environment and learning in a traditional manner. It's the difference between simple and complex.



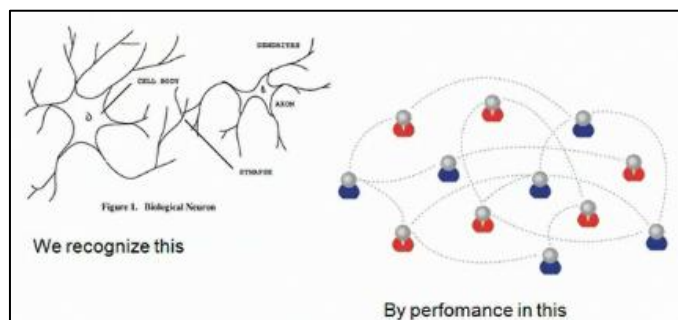
'Simple' is learning a fact. 'Complex' is learning a fact in the context of a network and learning not just the fact but all the associated situations around that fact. It's the difference between knowing that 'Paris is the capital of France' and even some sort of knowing how, and knowing what it *feels like* to have geographic knowledge, what it feels like to be a speaker of the language.

Learning a discipline is not learning a collection of facts, it is a total state. And when we're looking at learning outcomes, because it is a total state, it's obtained through an immersion into an environment, rather than in an acquisition of particular entities. It's expressed functionally. "Can you perform as a geographer?" rather than cognitively "Can you state geography facts?"

That's why we need to not just provide learning in a different way, we need to evaluate learning in a different way. We *recognize* when somebody has acquired that certain neural state, that way of being that is "being a geographer" by the way they perform in the network of geographers.

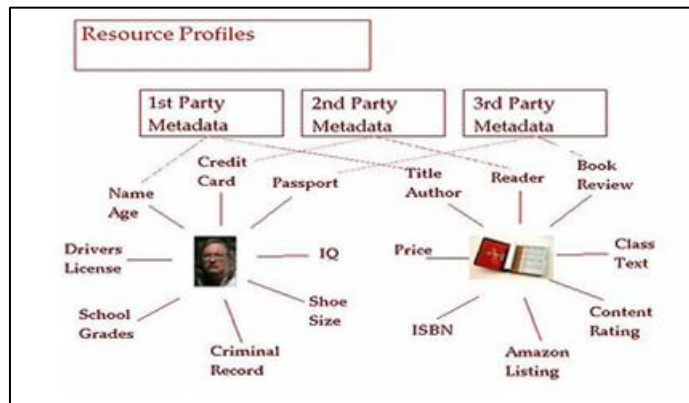
We call that "narrowing the participation gap." When a person is first exposed to a network of geographers, they're probably not going to have a lot to contribute. But as they learn more, as they learn how to use the words, how to do the things that geographers do, how to act, think and actually *feel* like a geographer, they become more and more engaged in that community. They reduce the participation gap. Learning to be a geographer is reducing the participation gap in the geographers' community.

In the last few years we've moved from beyond gRSShopper to a new personal learning environment project that we're calling Plearn. In Plearn we've identified six major components. In the rest of this talk I'll talk about the six major components. But first I want to talk a little bit about some of the thinking behind them.



Before talking about personal learning environments specifically I want to talk about the environment which we find them. This is an environment which is which in different data types. We're not just talking about large types of data like movies or books or even academic articles or blog posts. We're talking of data which is very specific, very discrete, and spread out across the internet.

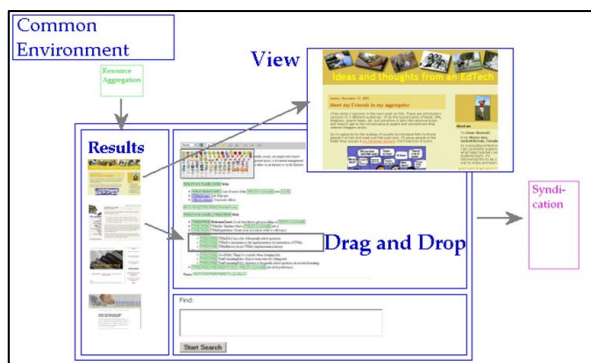
This data is managed through a system we call 'resource profiles' and the idea here is that, for any object, you get data from many different places, and pull it together to create a 'picture' or a 'profile' of the object. The people creating these profiles each have their own personal identity, and each profile belongs to a specific person. Personal identity is managed in many different ways on the web, and it's important to be able to accommodate that and build that into our system.



This is necessary in order to create communities. Communities exchange these data items back and forth and together create a combined description of the object. You see how this happens, right? Different people have different perspectives on the same thing. They create their own information about that thing. And then the community, by talking amongst itself, is able to create the wider picture.

The technology behind this is called a resource aggregator. On the web there are many kinds of resource aggregators. More recently we've talked mostly about things like RSS aggregators, or Atom aggregators, that bring together things like blog posts. But in fact we want to have a wide variety of resource aggregators in a personal learning environment. These aggregators will typically tap into repositories of downloaded data. In the educational space, we've had repositories for things like learning objects and open archives initiative repositories, DSpace, or CORDRA repositories. But again, we are going to have to thing much more widely than just educational metadata and educational repositories.

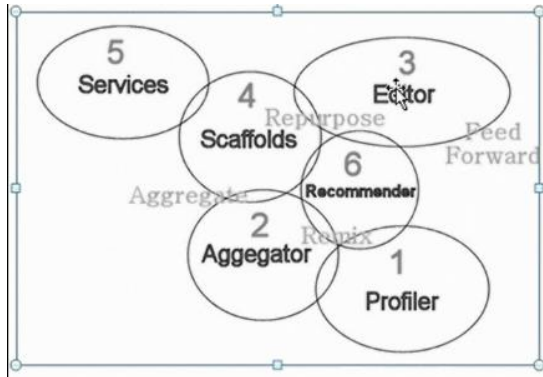
We also need to incorporate into our system a mechanism for resource production. This can be something as simple as a Flickr for the uploading of photographs to online video editing tools to complex multi-user collaborative authoring tools or environments. I'm working on one of those right now called SunerigiC3 with a number of other people at NRC.



The personal learning environment itself is what I've called a 'common environment' in the past. The idea here is that you're bringing in different things into the same user environment: the results from your aggregation, the editing area where you're going to create new content built from material from the aggregation, and then a way to forward that content to a publishing system of some sort.



Rights will need to be managed intuitively and hopefully completely behind the scenes. And when we're finished we'll syndicate our content. We'll send it just like gRSShopper does, in email, in RSS, and in a wide variety of ways. All of this has to operate in the environment that we find ourselves today, not only big clunky desktop computers but in all manner of mobile devices, embedded devices, and the rest.



This is the environment in which we're trying to build the personal learning environment. Now let's look at the personal learning environment itself. What does it need to contain?

In Plearn, we've identified six major components, and they are as follows: the personal profiler, the aggregator, the content editor, something we call 'scaffolds', third party services, and the recommender.

The personal profiler is pretty much what you would expect it to be: a place to store your personal information and to connect you to your personal information on other sites. In order for the personal profiler to work, it needs to work on a lot of websites, much like the example shared taken from web20formula.com



The idea here is that you're creating an account in one application that can be used in another application. Here you see YouTube being connected to Google Reader. In the personal learning environment our application's going to have to connect a large number of external applications in this way. Using personal identity in as standardized format as possible.

Next the personal learning environment application is going to have to manage the aggregation of resources from across the web. This is going to include much more than just your standard RSS or Atom feed. This Tun3r application, for example, I have on my iPod, and it aggregated information from local radio stations.



Music, video, data, personal information, organizational information, email, any data you can think of will need to be aggregated by our aggregator.

Next we need something to record content with, something to work with it, something to create content with, and also a mechanism to take this content and distribute it on the web, publish it, not just in feeds to our friends, but to online

storage services like Flickr, Blogger, YouTube, and many other of these content storage sites.

You're probably pretty familiar already with the online editing tools that are available. What you see is what you get, or WYSIWYG tools, like this one being demonstrated here, a person can edit content, add pictures, videos, and other objects. Most online services support these. Blogging sites such as Blogger or WordPress, content management systems such as Drupal or Joomla, and a wide variety of other services.

This in the first instance is what we're talking about for content input. But we need more than just a WYSIWYG in a personal learning environment. This is especially the case for an educational environment. We want to be able to do more than just create text content. We want to make all kinds of content. And we want to do it in an educational way. We want to be able to scaffold that content creation with a variety of different helps and services.

You see examples of this all over the internet. This bit of software, for example, helps people create adventure rooms and online adventure games, not just rooms, but messages, objects, characters, responses, crypts, vocabularies, and a whole host of other things. It's a very specialized tool. This is the sort of thing that I'm thinking of when we start talking about scaffolds: a specialized tool that helps you make your own kind of content your own way.



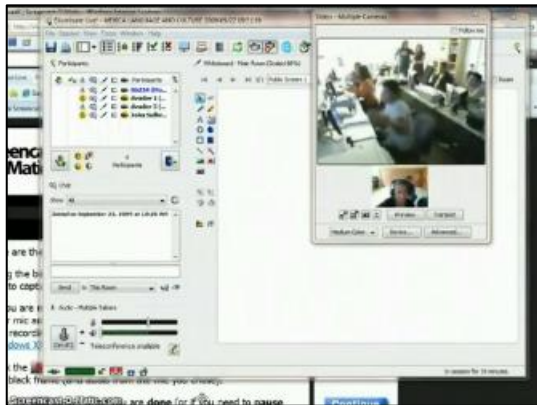
Here's another example, completely different data: this is CSS script for web pages, but still the same sort of concept. The application here is helping a person create their own content, in this case, the stylesheet for a website. The way it's working is the editor is input on one side or the other, and the changes are reflected on the web page itself. Again, it's sort of a what you see is what you get, but for style sheets.

This is the idea of a content scaffold. You're learning about how to create content through an interface that works with the data you want to work with. You get a wide variety of interfaces for many many different kinds of data and this allows you to be creative in many ways across multiple dimensions.

You see what's happening here, right? We're really talking about two different kinds of content that are available through the personal learning environment. The first kind of content is the data itself, what we typically call the educational content: the facts, the information, the video, the audio – the content. The second kind of content isn't really content at all, it's ways of manipulating the content. It's the shell that surrounds the content, or what we've called the 'scaffold' for that content.

What's happening in a personal learning environment is these two kinds of content are being merged. That's why getting the content representation right at the beginning is so important. That's why

resource profiles is so important. If we represent our content broken down and distributed we're able to represent our scaffolds as ways of working with that content. And this allows us to take our work a step further.



This should look familiar. It's an Elluminate session. And the logical next step to scaffold is to set up interfaces to third party conversation sessions. These third party services are what connect one PLE to another PLE. When we talk about having people work collaboratively, usually what we're talking about is having them go to a third party environment and work together in that environment. This saves us from the need to try to program all kinds of different possible collaboration into our own application. By distributing the function we greatly increase the ways in that third party

collaboration can be supported by different kinds of projects, different kinds of services on the internet.

The last of the six elements of the personal learning environment is the recommendation system. I don't have a nice video for the recommendation system because most of it happens behind the scenes. But you get the idea what can happen with a system like this, right? We've got all kinds of people being connected together, we've got all kinds of content being connected together, and we even have ways of representing that content and ways of setting up collaborations with other people, all in the same system. A recommender system now watches all the data from that system and is able to make recommendations based on the work that you have been doing and the work that you're likely to do based on what you have been doing.

This basically is my presentation on personal learning environments. I wish I had had more time, and I wish I had had the time to be there, to be able to talk to you in person. I thank you for your time, and as I said before, I do hope to have the chance to visit Finland some time in the future. Thank you very much.

For audio and video see <http://www.downes.ca/presentation/245>