

- **In your opinion, what is collaborative learning?**

Collaborative learning is taking the principle of people working together and having ideas bouncing off each other and take command of new material better than they would on their own. Adding the layer of technology making it possible for them to do that when they're not in the same place or not around at the same time.

In my mind there are two kinds of collaborative learning in environments.

1. *Immersive environments* like second life or a game where you're in a situation and you're working your way through it and learning as you go.
2. *Virtual space* which is more along the lines of Blackboard or Moodle which involves tools such as text chat, blogging and e-learning modules which is much more formal presentation of information but might be easier for students to take and process it at their own speed and in their own way.

- **What are the challenges that come with collaborative learning?**

There are a bunch of challenges. Especially around the technological ones, there is a big challenge around mobility and access. If you're working on a site with synchronous communication (that is important where people are actually talking to each other at the same time), the ability to type is pretty critical, having use of your fingers. Never mind those who are visually challenged, you have to have readers who are able to keep up with the activity on the site and able to present it in a way that is understandable to the user.

I think there are also challenges around richness of the content and relevance-- keeping this interesting for all of the members of the community or the users of the site. If they're not plugged in and engaged, they're not going to be interested in what's going on. And some of that does actually translate into design challenges. I read a study by Baker and his cohort in 2003, where they used a computer supported learning environment with a graphic dialogue tool that basically referred back to you a visual image of what was going on in the dialogue in addition to your little text box where you chatted. And they found that the students with the graphic tool were likely to produce more arguments than those who weren't. So as a technology developer, I have to pay attention to the details in order to encourage everyone to participate and get as much out of the environment as they possibly can.

The last of the concerns that I think is worth mentioning is community management and monitoring. Because what you're dealing with is effectively an online community, you have all the usual challenges of registration and knowing who's who and keeping the content appropriate. But for collaborative learning environment, it's more of a challenge because the time for the natural leaders is quite limited. The people who are looking after the content and facilitating the learning are often teachers who have busy lives and many other things that they need to be doing. They're not necessarily the ideal ones to be patrolling or responding to inappropriate comments referrals and those kind of things. So in setting up a collaborative learning environment, you really need to make sure its appropriately resourced and all of the community management issues are being planned for in advance.

- **What are the assumptions that underpin collaborative learning?**

I think they really go back to the assumptions that are behind collaborative learning in the classroom. Smith and McGregor wrote a wonderful paper in 1992 called "What is Collaborative Learning?" and they bring it down to four main assumptions. One of them is that learning is an active, constructive process; you can't just sit there and absorb material, you have to be working with it and doing something.

The second is that learning depends on rich context. The more you understand how it fits in with everything else that you do and everything else that is going on, the more you'll appreciate the value of what you're learning and the more you'll be able to assimilate it into the rest of your understanding. The third assumption is that learners are diverse. We all have different styles of learning, different ways of interacting with material and with each other. So as virtual learning environments designers and producers, we need to take that into account and to make tools that access as many people as we can and all their different styles.

And the fourth, and possibly the most important in my mind, is that learning is inherently social. We do far better when we are learning with other people, when we're bringing in material and processing things together and using other people's views to accomplish things and integrating new material into our world view and understanding.

So once we take those assumptions into play, collaborative learning environments should support all of those, making it possible for you to learn with others even though you're not physically together.

- **Do you have any example that you can share with us?**

One example from when I was working with the NHS is the eLA project: the e-Learning for Health project that the anesthetists put together for their trainees (and is a collaboration between the NHS and the Royal College of Anesthetists). And they have produced a huge series of e-learning modules for their trainees who are revising for the FRCA examinations, which is one of the things they need to accomplish before becoming a full anaesthetist. Their project is particularly ground-breaking in my mind because they are collaboratively generating the modules amongst enormous teams of participants and they are peer-reviewing them for academic and scientific quality before the trainees or learners are ever near them. So their collaboration is also on the building side as well as the learning side.

- **So sounds like e-Learning modules are functioning a bit like open source nowadays?**

I think they do and I think they really should, to harness the intelligence of the masses. You really want to make it as easy as possible for anyone to feed in what they know and what everyone else wants to learn.

- **So what is it in your opinion is the future of collaborative learning?**

I think that the future of collaborative learning is going to really hinge around the development of the technology that make it easier for us to interact with each other. I think the more progress we have in, say, video conferencing and being able to kind of 'put ourselves in a room with others', the more we will be able to strongly support collaboration (in the social aspect of being with a group of people as we're working on building something or creating something or learning something). So the technology is just going to continue to get better and better and support that further to greater educational accomplishments.