Using virtual spaces for learning communities to facilitate project development and collaborative learning

Katya Toneva
Institute For Work Based Learning
Middlesex University
London, United Kingdom
e-mail: Katya147@yahoo.com

Kathy Doncaster
Institute For Work Based Learning
Middlesex University
London, United Kingdom
e-mail: K.Doncaster@mdx.ac.uk

Darryll Bravenboer
Institute For Work Based Learning
Middlesex University
London, United Kingdom
e-mail: D.Bravenboer@mdx.ac.uk

Abstract— **With the extensive expansion of IT in the learning, business and home environments it is becoming apparent that there is considerable opportunity for increasing collaborative interaction if a framework is developed to coordinate the activities of the individuals across the different sectors. As a possible way of achieving this objective we present the online Community of Practice (CoP) developed and presently being trialled at the Institute for Work Based Learning (IWBL), Middlesex University. In this paper, we describe our approach for developing and utilising of this Community of Practice. Through case studies we will give two ways in which it is being currently applied. We will define what we have presently achieved and go on to outline future developments.**

Keywords – online community of practice (CoP), Google Apps, Web 2.0, social constructivism, interaction, collaboration

I. INTRODUCTION

The purpose of this paper is to introduce ways that Google Apps and other Web 2.0 technologies can be used to develop an integrated virtual space for a learning community by putting in place an online Community of Practice (CoP). This project has been developed and is presently being trialed at IWBL, Middlesex University with the intended aim to "progress its online learning activities (including an increased use of social media) from individual, Programme-based initiatives to an institution-wide, strategic project which will be core to realising strategic objectives in learning and teaching" [4].

The IWBL has a long history of on-campus and off-campus innovations in e-learning and blending learning, as evidenced by BA Professional Practice (Arts) programme web-site:

http://libguides.mdx.ac.uk/content.php?pid=121076&hs=a

and a wide range of Institute level good on-learning practices [4].

The way in which IT was being utilised by the IWBL, whilst being innovative and desirable, lacked a common structure which isolated the different stakeholders and by integration and the establishment of a framework and consistent approach, the CoP establishes a wider collaboration and a sharing and interaction between multiple stakeholder groups. The online CoP aims to expand the effective use of IT towards fulfilling more of its potential and greatly widen the participation by providing an integrated virtual space for a learning community that will include multiple stakeholder groups.

The CoP will utilise integrated Google Apps for Education including the new Google App called "Course Director". Having now developed and established a CoP for staff to which they are now actively contributing the remaining target for the project is to extend it to the other identified stakeholder groups (students and employers).

II. RATIONALE FOR CHOOSING GOOGLE APPS FOR EDUCATION/COURSE DIRECTOR FOR CREATING CoP.

The creation of a suitable virtual online learning space for the multiple stakeholders that we envisage using this facility made the choice of tool for the development and management of the space a crucial one. We aimed to find a tool that was simple, accessible, interactive, collaborative and cost effective.

Detailed discussions between the e-resources consultant, the IWBL management team and staff as well as with the University's ICT policy makers have taken place. We looked at different VLEs including online learning systems such as Moodle and Google Apps.

Considering the needs of the stakeholders for open access to e-resources with no cost for administration and the requirement to use an intuitive interface, we have made a decision to set up a CoP based on Google Apps for Education and extended by a new Google App "Course Director". We have considered suitable Google Apps/Course Director features to assist the development of the CoP in terms of sharing e-resources, information and archive documents in 'Google Sites. Stakeholders can jointly submit to 'Google Docs' and there can be discussion groups for each community of practice in 'Google Groups'.

Google Apps/Course Director support social constructivist approaches to learning. Social constructivism creates a learning environment that emphasises collaboration and exchange of ideas [1]. Constructivism gives people ownership of their learning, since they are engaged through questions, explorations, and designing assessments [3]. "Course Director" offers educators a set of tools to support collaborative forms of learning that can encourage publications, multiple literacy and inquiry. As suggested by Williams & Jacobs [6], "learners are able to develop new ideas, and transform their own understanding through reflection by publishing and sharing their work to a wide audience".

In short, a range of free interactive and collaborative Google Apps has been installed. Google Course Director is the only Google App in the EDUCATION Marketplace to be awarded the TRUST e-Privacy certification. Free online support is available through a series of help, online demos and e-mail advice.

The desirable characteristics we outlined above as well as the fact that we trusted the application were crucial in our final decision to use Google Apps/Course Director.

III. DEVELOPMENT AND UTILISATIONS OF THE ONLINE CoP.

The development of the online CoP Pilot commenced in September 2011 and has being trialed with academic staff at the IWBL with very promising outcomes.

It is now to be extended to involve students and other faculties at Middlesex university, business organisations, and other stakeholders. Project findings will be presented and discussed at workshops organised at Middlesex University.

Our overall goals are to enhance the interactivity and connectivity involving tutors, students and employers and to achieve greater integration and use of a more diverse range of digital media (i.e. video) and social media (e.g., Blogging, Wikis) for enhancing teaching and learning [4]. In the creation of an online CoP a real opportunity has been given to stakeholders to share best practice, interact and collaborate. The contributions each individual gives to the community will continually refine the CoP and as the contributions and utilisations accumulate it will engage a much wider participation. Throughout the trial academic staff have been using the online CoP effectively in this manner as will be demonstrated partly in the presented case studies.

In the extension of the Pilot just about to be undertaken the IWBL is looking to widen the participation in the CoP to include all staff, students and external institutions such as businesses. Past experience has shown that aligning the sometimes very different expectations, priorities and values that pertain to different shareholders, for example, students and employers, can be difficult.

The CoP approach is considered an effective means of achieving this. The CoP approach avoids duplication of effort by bringing the efforts of the key stakeholders together to work towards a common set of principles and guidelines for best practice. The development provides opportunities for improvement of interaction, sharing and collaboration, for developing well-structured e-content, potential cost savings and income generation opportunities.

We are at the initial development stage of the CoP and we have a few IWBL staff contributions published within the newly created collaborative CoP web-site.

TABLE1: BENEFITS, BARRIERS AND CRITICAL SUCCESS FACTORS (CSFs) OF THE ONLINE CoP

Benefits	Barriers	CSFs
Enhanced learning environment	Perpetuation vs. variety and flexibility	Good use of Google Apps and other Web 2.0 technologies
Knowledge sharing	Culture of independence	Institutional promotion of the online CoP as communication media, a range of interactive tools.
Building up knowledge and expertise	Maintaining interaction and information flow	Common values, shared understanding, varied communications.
Feeling of connection	Read-only participants	Sense of purpose, sense of belonging, sense of ownership.

We believe that the case studies developed by IWBL staff will help to promote the concept of using online CoP at a wider level and will engage participation at university level and from many more organisations and individuals.

IV. CASE STUDY 1: USING THE IWBL CoP FOR EDUCATIONAL PROJECT DEVELOPMENT

The online CoP approach provides an ideal opportunity to support projects which have multiple shareholders all aiming to contribute to a common outcome.

The immediate positive of such a tool is practical as it could enable a well structured project approach, make resources and on-going comments available at any time and remotely during the development stage, and would help researchers and educators to effectively manage the project process.

At the commencement of a project we established a suitable Google site (CoP) to develop virtual space where members of staff were able to share resources and comments. This is work in progress, but so far, we have found that tutors share good practice and consider advice from internal and external advisers.

In addition, colleagues prefer addressing project issues on an ongoing basis through comments on the online CoP rather than reviewing negative aspects after finishing the project when it would be too late to make improvements. The project web spaces are used for reflection on the process of project development, and publishing of relevant project materials.

We have been using the CoP to develop two project proposals – a JISC-UK bid proposal and a Higher Educational Academy UK travel fund proposal. We are using Google docs as the main tool for developing collaborative material. After achieving the final product we embed it within the online CoP and share it with staff through the CoP site. This creates the opportunity for the team members to learn from each other and to provide peer feedback.

A positive benefit from this collaborative approach was that it overcame many of the spatial and temporal difficulties often encountered when a project requires contributions from a large range of shareholders. The opportunity for very rapid feedback and subsequent development that moves the project on is continuous and uninterrupted by constrains often put upon projects by peoples' different responsibilities and locations.

V. CASE STUDY 2: USING IWBL CoP TO SHARE AND DEVELOP A SMALL PIECE OF ACTION RESEARCH

IWBL is increasingly developing programmes of study in partnership with large employers. Some of the challenges of such programmes are that they tend to roll continuously throughout the year and involve large student cohorts. This action research focuses on how we can best operationally

manage such programmes. IWBL has considerable experience of supporting learning and assessment in a wide range of work based programmes and we interviewed eleven colleagues for their perspective on this process for this piece of action research.

The CoP is being used in two ways. Firstly, it is an alternative medium to 'writing a paper' about what emerged from this interview data for the IWBL colleagues who are the audience for the research. A Google website not only allows for non-linear representation of information, but for interaction with it. Academic staff can associate the units of information on each page and respond to them in the way they want. We hope this will be a creative stimulus to developing responses to the complexities of managing these large programmes, in a way that the familiar activity of simply reading a copy of a paper might not be.

Secondly, the CoP is being used as an exemplar of how all members of an IWBL 'programme team' might collaborate and share core information about the management of an actual employer programme, for example, by being able to collaboratively develop material using more types of media than just words (pictures, video clips etc) to give a richer picture.

This case study has highlighted that there has had to be a lot of learning for staff to understand what a Google website can do and how this can be made relevant to real and pressing needs in IWBL. For example, embedding Google Docs for colleagues to comment on and using a Google website to organise and display data in ways that are persuasive through their visual representation, are all processes that have had to be learned. Training and support have been crucial for colleagues to help them to master the technical action required to produce certain effects.

We hope that the outcome of this case study will be that collaborative CoPs like this can be used as long-term resources for employer-based programmes, since they allow for the organising, sharing and development of information across a whole 'programme team'.

However, we anticipate that the realisation of this will depend on the time and motivation of academic staff to do the hard graft of learning how to make the most of this new technology. This is costly in time and effort and would need technical support. The extent to which colleagues feel able to engage with the CoP developed for this piece of research will provide one gauge for the future value of this kind of resource in IWBL.

It is envisaged that a future development will be to make the employers active stakeholders. This should help to build the strength of the partnership by providing the employers a more active role and an involvement which will promote their understanding of the academic processes. Also by their comments the IWBL will get a better understanding of the employers' requirements. In other words, there will be promotion of mutual benefits in the partnership. Moreover, as [5] depicted, "Communities among practitioners create a direct link between learning and performance".

VI. CONCLUSION

Considering our initial experience, we conclude that Google Apps/Course Director and other Web 2.0 technologies offer educators a set of tools to support forms of learning that can be strongly collaborative.

We are aiming to extend the online CoP and involve not only IWBL staff, but also colleagues from other faculties, students, employers and other stakeholders to develop and cultivate cooperative relationships by posting and exchanging digital materials, joining project groups, sharing information and building up knowledge together.

The CoP is to be designed to support the development of collaborative resources, to gain access to e-resources and it is needed to protect and increase the value of the content for all stakeholders. We anticipate that the CoP will help to continuously enhance the professional practices of IWBL staff and collaboration with other stakeholders, and that the coordinated and ubiquitous use of e-resources will provide increased flexibility, sharing, choice and support.

Further refinements of the online CoP should be able to effectively incorporate both existing and future developments in social networking taking advantage of methods of communications frequently used widely by many of the stakeholders. It is in fact a stated aim in the university Validation report [2]: "Consider greater use of social media to engage all students in communities of Learning"

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Not enough info for me to do. Try these?

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