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Roisin Donnelly

Technological University Dublin, roisin.donnelly@dit.ie

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The Academic Developer as Tutor in Blended Problem-based Learning in Higher Education

Roisin Donnelly

Introduction

This chapter is written from the perspective of an academic developer engaged in blending e-learning and problem-based learning as a means of delivery of professional development for academic staff in higher education. There is undoubtedly a wider range of e-learning technologies that are available for use with the more traditional teaching and learning / instructional strategies, but the challenge faced by today's academic developers is the development of e-learning technologies to support constructivism and social constructivism in learning approaches amongst the academic staff with whom they work, so that this is, in turn, is carried forward into their own classrooms and subject disciplines. The learning approach supported by e-learning technologies explored in this case study research is problem-based learning (PBL). The chapter presents a review of the relevant literature that informed the design of a module for academic development of teaching staff in higher education, together with subsequent case study research exploring the role of the academic developer as tutor in this form of continuing professional development.

Research Question and Objectives

A hugely important area in any form of instructional delivery is the role of the tutor; in an online environment, it is even more crucial. This chapter aims to address the question of: what is the academic developer's role as tutor in sustaining / propagating the best features of e-learning and problem-based learning? The tutor's cognitive, social and managerial role in a blended PBL module will be explored in this chapter, as will how such facilitation of the learners can build a sustainable model of academic development. In

particular, matters such as the locus of control within blended PBL sessions will be considered, alongside the issue of whether combining two innovative pedagogies such as PBL and e-learning can empower learners. The premise for the original research study was that a tutor who values a cohesive, supportive and productive blended problem-based learning (PBL) class will accentuate exchanges of positive affect in learners; they will encourage collective and achievement orientations toward learning in students; they will show appreciation for the uniqueness of each particular learner; and they will facilitate open and diffuse discussions about the problem in both virtual and face-to-face learning environments.

The objectives of the research study were to:

- explore the principle tutor skills required in facilitating blended PBL;
- identify tutoring strategies that academic developers adopt in tutoring learning through blended PBL in higher education;
- to appraise the effects of the tutor's cognitive, social and managerial presence (if any) when facilitating blended PBL tutorial sessions;
- to inform the personal and professional development needs of individuals who facilitate blended PBL for academic staff in higher education.

What was the motivation for the innovation?

The current and emerging higher education environment in Ireland, as elsewhere, is placing high demands on staff and learners to deal with changes in education influenced by both the rapid development and implementation of information technologies, and their use for teaching and learning. The use of these technologies impacts not only on the ways in which staff teach but also on the ways in which learners learn. There are, however, a significant number of staff and learners who are not adequately prepared or equipped to operate effectively in emerging alternative learning environments, particularly those environments which are technologically mediated. The need for staff development programmes is apparent, but it is doubtful that any one strategy or approach would have much effective long term impact on developing the skills and experiences necessary to create effective teaching and learning activities in the emerging teaching and learning

environments. Therefore, the motivation behind delivering a model of academic development using a blended PBL approach is seen as a way in which innovative approaches to teaching, learning, and assessment in a virtual and face-to-face setting can aid the development of a fully professionalized teaching force in Irish Higher Education.

Context of blended PBL

The focus of this chapter is a ten week module entitled ‘Designing E-Learning’ which is delivered using a blend of face-to-face and online problem-based learning. The entire programme is located within a Faculty of Academic Affairs in an Institute of Technology in the Republic of Ireland. Module participants are drawn from very diverse fields and have spent varying lengths of time as lecturers. There is also a wide range in knowledge and experience about both e-learning and PBL, from novice to intermediate. All participants are self-selecting and choose to come on the course. A specific approach was taken to the design and delivery of this module by using problem-based learning as the dominant pedagogical model. The online delivery component and support of the module is in the Online Learning Environment, WebCT.

The aim of the module ‘Designing E-Learning’ is to enable the participants (lecturers, librarians and educational technologists), through a blended learning approach to PBL, to become aware of the practicalities of designing, delivering, supporting and evaluating an online module in their own subject disciplines.

In the context of this module, the term ‘Blended Learning’ refers to a merging of classroom and online activities that must be integrated by the tutor in ways that allows them to deliver learning (both content and tasks) as a coherent and effective whole; they may be individual, group based, or a combination of both. Blended PBL has evolved as a delivery and facilitation approach in the module whereby an online environment has been created to complement a series of face-to-face PBL tutorials with a puzzlement that engages the group of learners in inquiry activities consistent with the learning outcomes of the module.

Review of the Tutor Role

The study recognises the abundance of research and literature on the role of the tutor within problem-based learning, and similarly, there has been a wealth of work in recent years on the classification of tutor roles in an e-learning environment (see Berge, 1995; Collins and Berge, 1997; Salmon, 2000; Hootstein, 2002). A variety of terms for such a role has emerged. In this chapter, when referring to literature, all will be used interchangeably: e-tutor, e-moderator, e-facilitator. Carlson in Winograd (2001, p.32) provides a straightforward definition of a moderator online as one who:

helps people get started, gives them feedback, summarizes, weaves the contributions of different folks together, gets it unstuck when necessary, deals with individuals who are disruptive, or get off the track, brings in new material to freshen it up periodically, and gets feedback from the group on how things are going and what might happen from the group on how things are going and what might happen next...[Further the moderator needs to] communicate with the group as a whole, sub-groups, and individuals to encourage participation.

McConnell (2000) identifies and classifies a variety of differences in teaching and learning between online and face-to-face group work. Areas pertinent to this proposed work will centre on the differences in the level of tutor control and impact over learner's behaviour; the permanence of online discussions and impermanence of face-to-face ones; that online discussions may have several simultaneous foci, whereas face-to-face ones usually work on one issue at a time; the differences in group dynamics, with difficulties for interpretation of behaviours online due to lack of non-verbal cues; the differences in levels of anxiety; the psychological stress of rejoining a group is much higher online than face-to-face; that feedback on other's work is much more detailed online than face-to-face; that people cannot hide online; that the total effort of the group is likely to be greater online than face-to-face.

Multiple methods for online instruction are utilized throughout academe. One method, described as the online learning community, has become pre-eminent in online instruction. Boettcher and Conrad (1999: 88) define an online learning community as a community that “*consists of learners who support and assist each other, make decisions*

synergistically, and communicate with peers on a variety of topics beyond those assigned.” It is this building of the learning community by the academic developer / tutor in face-to-face (f2f) PBL tutorials and sustaining it online, that led to the evolution of this module in its present form.

Outline of the Blended Module

The research builds upon a previous action research study (Donnelly, 2004). There are three main areas that were initiated by the tutor in the f2f PBL tutorials and continued in the online environment: self-directed learning, learning by practice and learning through modelling. Figure 1 below illustrates these.

Insert Figure 1.

The concept of **self-directed learning** emerged in the 70s through the efforts of educational researchers such as Malcolm Knowles (1984, p.64) who proposed that ‘*most of us have never learned how to learn*’. His early identification that the world was *beginning* to become a place of rapid change certainly has resonance in today’s fast-paced society. He believed that the knowledge that we ‘transmit’ to students will have a short life span and may indeed become obsolete: this is more applicable today than ever. Knowles subscribed to the idea that the main purpose of education should be to develop skills of inquiry to enable students to learn how to learn what they needed to know. Currently self-directed learning can be designed in a number of ways including:

- self-directed learning tutorials where learners ‘master’ predetermined material, at their own pace without the aid of a tutor (Piskurich, 1993)
- self-directed inquiry based learning where learners are guided to develop independent and self directed learning skills critical to the discipline or profession.

This second realm influenced some of the module learning outcomes.

Learning through Modelling by the Tutor

On taking up the post of lecturer, most new lecturers have no idea of how to teach and in many instances, how people learn, other than what they themselves have experienced.

Some may try to model themselves on someone whom they thought was a good teacher, someone from whom they themselves felt they learned well. In online education, the teacher is unable to stand up in front of a class; hence the link that once existed between teacher and students is broken. This means that we have to think more about *how* people learn.

It is vital for the tutor to promote blended PBL through how they model it themselves. This involves developing learners' skills in subject and topic specific skills alongside generic learning skills such as critical evaluation, writing, finding and accessing resources, note-taking, summarising, problem solving, and prioritising.

It is argued that the tutor in a blended PBL environment must be able to:

- Model these skills explicitly;
- Break complex skills down into smaller units (tasks) to scaffold skills development;
- Take different approaches depending on subject area (e.g. text-based, fact-based, practice-based);
- Encourage peer and self evaluation of students' skills;
- Know when to separate/distinguish and when to integrate ideas;
- Use techniques such as games, simulations, debates and role play;
- Model (or be explicit about) quality and etiquette of online and face-to-face contributions in the PBL tutorials.

Learning by Practice

Most e-learning programs present information with little or no opportunities to practise the tasks or skills that the information is supposed to help learners perform. There is no opportunity to practise a sequence of decisions and actions in a realistic situation or to practise complex skills and decision making in multiple cases where variables are systematically manipulated to reflect common variations that occur on the job. There is no attempt to diagnose and correct misconceptions or flaws in reasoning that will lead to inaccurate application of the "information" covered.

Authentic practice in varied contexts, with appropriate feedback, is what leads to learning and transfer of skills on this module (Donnelly, 2004). The most effective learning activities induce the same cognitive processes that expert performers use in real situations. Information and feedback are organized by the tutor so that each learner automatically receives the scaffolding he or she needs to complete an activity.

Role of Online activities with the PBL Problem

In the module, PBL provides an authentic context and activities which the participants may well come across in their practice. **Specific online learning activities** in the module include researching information regarding the authentic context outlined; discussing their ideas within the online discussion forum and submitting a document outlining potential solutions to the problem. These activities allow participants to attempt to solve the problem by researching and discussing amongst themselves - thus the task is driven by the problem, not the content / theory. **Learning supports** include the module and problem information. The 'Introduction to the module' gives a clear outline of the objectives, PBL, study schedule and, assessment. 'How to study this module' provides support for the participants and clearly outlines how they should approach the problem and what they can do to help themselves along the way. The support for the problem itself also provides guidance including a clear outline what activities to do, what readings to look at, etc.

The tutor can provide formative feedback via the discussion boards. Participants submit both the problem work-in-progress and extracts from their online journal for feedback before final submission allowing them to reflect on their work and make additions / changes to their final submission. **Learning resources** includes reference to textbook readings, online articles, discussion forum, CD-ROMs, images, and so forth, all of which create a useful starting point for participants. Access to the discussion forum also gives participants the knowledge that they can ask for expert help (from fellow participants or the academic tutor) if need be. As resources provided are quite varied, participants can look at the problem from different perspectives before making a decision on how to tackle it. The online activities are planned so to provide participants with information on

what the problem is; information they can use to 'solve' it and supports for gaining extra information if necessary.

Case Study Research

The principal area of concern within this section involves the case study approach. Yin (1994), considered to be one of the leading exponents of case study research, believes that case study is the preferred methodology to use when questions such as 'how' or 'why' are posed; considering the essence of this method is its enquiry into real-life context. He also suggests that case study is ideally suited to educational research. Bassey (1999) believes that an essential feature of case study is that it is conducted in its natural context, which is the situation pertaining to this study.

The methods, methodology and theoretical perspective indicate that a subjectivist position has been adopted within this study. The epistemological stance is significant because the subjects of the research are people who are all individuals (academic developers in higher education) and view the world differently. The research detailed in this study involves four academic developers, with a range of prior experience in using learning technology or new pedagogical approaches in their practice, therefore the methods used are 'soft' and predominantly qualitative. Both Crotty (1998) and Cohen *et al* (2000) agree that where qualitative methods are predominant, the subjective epistemology may be the best approach. Crotty (1998) does, however, caution that qualitative methods combined with subjective epistemologies can lack scientific rigour. The research question which forms the basis of this submission, combined with the academic developers who have taken part, has been ideally suited to the case study methodology.

Qualitative online evaluation

- A qualitative questionnaire was distributed online to a number of colleagues internationally, who are working as academic developers, and are offering programmes to academic staff using some form of e-learning and/or problem-based

learning. These academic developers were chosen for this study, as they all had a guest tutoring role on the 'Designing E-learning' module, outlined earlier.

This qualitative questionnaire was designed to explore two angles to the tutor role: one specifically was aimed at the guest tutoring role in the module, exploring why the guest tutors acted or thought the way they did, and a second was in a wider sense, to delve into their academic development role in their own institutions, engaged in e-learning or PBL, or a combination/blend of the two. It was designed as 'open ended' as this research is concerned with obtaining opinions and feelings. The data is looking at the total picture of utilizing these pedagogies to deliver continuing academic development, rather than the separate components.

Delineation of the Findings

The participants' online questionnaires contained a series of open questions relating to tutor perceptions of the module, and to e-learning and problem-based learning as a means to deliver academic development in higher education. A content analysis of questionnaire data was used to identify themes, concepts and meanings in the data using code categories recommended by Burns (2000). To set the scene for the research, the participants were asked to share their past experience, as academic developers, in tutoring e-learning and PBL.

There are a number of key findings emerging from this study. They are labelled as follows and are detailed separately.

- Core components involved in the act of tutoring;
- Key differences between online and face-to-face learning in academic development;
- Tutor's requisite communication skills in a blended environ;
- Empowerment of learners by blended PBL;
- Principles of blended PBL;
- Rounded tutor Skills in blended PBL;
- Professional Development Opportunities and Concerns about Blended PBL.

Tutoring in Academic Development

The maxims for good practice in online and f2f tutoring are derived from Brookfield's (2001) analysis that good learning relationships are based on reciprocity, authenticity and credibility. In addition, it is believed that in order to develop deep understanding, high quality learning and teaching, a tutor has to set ground rules, provide alternative modes of participation, exemplify models of engagement and give access to their experience as tutor.

Participant 1

I will emphasise the two key aspects for me in tutoring or teaching in other roles too, as well as for an online or face to face context. First, a focus on revealing the key questions that illuminate the subject matter to be learnt. These questions might be raised specifically by the teacher/tutor, or by the students or a combination of both. It will depend on the teacher's approach. Secondly, creating 'space' in which the teacher/tutor and the student can engage about the subject matter. Space is my metaphor for this, but it is all about leaving the opportunities for students to create their own knowledge, and not having the teacher fill up all the space with their own knowledge, views, etc.

Participant 2

From the learner's perspective, it is important to identify their learning needs, set their learning outcomes, engage with the learning activities; as a tutor, one needs to facilitate learning by motivating the learner, provide scaffolding and guide the learner to achieve their learning needs; if a tutor is involved with curriculum design, and not just hired to tutor an already designed and produced course, s/he needs to be aware of and uses sound educational and pedagogic principles to understand the course design, planning, implementation, assessment, evaluation and review. This is to ensure that the course is fit for purpose in meeting the stakeholders' needs and enhances the students' learning experience.

The key differences between online and face-to-face learning in academic development

Teaching online does share similarities to teaching in the classroom; however, even the best traditional tutors may still find that teaching in an online environment can lead to feelings of inadequacy and being ill-prepared. Providing training and tools for ePedagogy

is one way to build confidence and create successful outcomes in the online classroom. Even experienced online tutors can glean helpful and timesaving ideas from knowledge shared by others.

For the practice of blended learning in the context presented by this chapter, it is argued that it is not necessarily the case that a good face-to-face tutor will be a good online tutor, even if the necessary technical abilities are added. Many online tutors are already face-to-face tutors and will have developed their own style and pedagogical assumptions; becoming an online tutor, or a tutor operating in a blended learning environ, may involve a shift in some of these, especially for tutors who rely very much on their face-to-face skills of reading body language, establishing rapport and working with groups. The face-to-face tutor needs to make these core skills work equally well in an online environment. Distinguishing a good online tutor from an excellent one may rely on an ability to deploy technologies effectively and imaginatively: a pedagogic skill rather than a technical skill.

Participant 3

Basically, regardless of context, I always try to create a 'conversational' environment and place key questions up front as a focus and often as the starting point for engagement. Application often occurs away from the online environment, in the classroom, etc but the participants' responses and experiences are always brought back to whatever type of forum is available for sharing across the group. In terms of communicating with colleagues and learners, I have always been comfortable with a mix of online and face to face contact.

Participant 4

This is very variable and depends on both individual's differences and likes as well as the nature of the topic being discussed. For content-based topics, engagement is about the same in F2F and online. Again, this depends on the facilitator's ability and effectiveness in engaging the participants. For practical-based elements of a topic and or involving human contact, most participants engage better in F2F settings than online.

Tutor's Communication Skills

Collaboration and dialogue are pivotal to any discussions about the role of a tutor in the blended environment of e-learning with problem-based learning. Laurillard (1993) has

famously presented a conversational model of student learning: a way of thinking about the role of dialogue in the learning process and the practical implications for student and tutor roles. A telementoring taxonomy developed by Levin (1995) and a variation more recently by Brescia *et al* (2004) highlights a number of key areas for this research: coaching through participation, providing structure, supporting individual students, community building and institutional structure.

Participant 2

From my own experience – this is relatively easy. I communicate using a diverse range of media to suit the content, context and situation.

Relating to the academic developer role, what does it mean for participants to be ‘empowered’ by e-learning and / or PBL?

Eklund *et al* (2003, p.9) suggest that at its worst, e-learning ‘*can disempower and demotivate learners by leaving them lost and unsupported in an immensely confusing electronic realm*’. Salmon (2000, p.56) advises that ‘*educators wishing to get the best from e-learning opportunities need to concentrate on engaging their learners (and not just on providing reading materials)*’.

Participant 4

For me, I would answer most strongly that it would result in the learner being confronted by alternate perspectives, views (solutions – perhaps, but might be a bit too strong a notion for what I am trying to do, which is to impact on how a teacher approaches their own role as an educator). Quick fixes don’t work; it is about changing a mindset and how the teacher understands their role.

A PBL approach probably describes reasonably what I try to do, and have done for some time in my practice. Frankly, I try to place learners in situations that are realistic and which require them to expose their own thinking, often the foundation of their practice but not often revealed. Then, I try to expose them to alternatives.....

A real concern with Elearning and Etutoring is knowing how to manage contact with students who ‘vanish’ online, how often to chase them up, etc.

Participant 3

They will turn out to be self directed, self regulated and autonomous learners who are well equipped with the required skills to learn and manage their own learning, but above all else, can solve problems and reflect on their learning and use the outcomes from their reflection to improve practice and performance.

Important principles of e-learning and PBL and how they can be related to academic development

A number of key well-recognised principles were named and detailed: the importance of feedback, active, social, affective, collaborative context for learning.

Participant 1

Feedback should happen very soon after the commencement of the learning experience/course/program, etc.

Active learning is vital, but active can mean the extent to which the learner is positively engaged in the learning process (i.e. the extent to which they approach the material, rather than passively receive it) and does not mean making lots of activity. This is often misunderstood, I believe.

Learning is essentially a social experience and therefore must involve considerable collaboration.

Much learning takes the learning into uncomfortable territory

Learning is definitely an affective experience too.

Participant 2

PBL and e-learning can contribute in helping people learn and develop the relevant knowledge and skills through appropriate contextualization of their learning needs, rather than basing the teaching on a 'content driven' approach.

The principles of...pedagogy, facilitation of learning and supporting learners in different contexts and situations, assessment and the effective use of technology in teaching and learning...specifically...

Role of feedback: *very critical in enabling the learner to know what it is they know and do not know, how well they are doing and how they can make progress.*

Active learning: *good understanding of the pedagogy ensures that the curriculum is based on constructivism and not instructivism. That way learning is active and not passive.*

Collaborative learning: *If a socio-constructivist approach is used, then learning is set in a social domain involving a learning community or community of practice.*

Learning as a painful yet rewarding process: *The teacher through their training and experience needs to appreciate that learning is painful and rewarding and should be equipped in providing the following: appropriate induction for learners at the start of the course; and the necessary support, encouragement and guidance at the various stages for the learner.*

Learning as an emotional as well as an intellectual process: *This involves cognitive (intellectual) and social presence. The teacher's presence can deal with content and both the teacher and learner through social presence and socialization, can deal with the emotion involved in learning.*

E-learning and PBL offering an opportunity for lifelong learning

E-learning also offers the opportunity for lifelong learning; an important consideration for the academic staff enrolling on this module. In an Australian study for lifelong learning through higher education, Candy (2000) identified four categories that graduates participated in to continue their educational development. These were: workplace-based learning; continuing professional education; further formal study and self-directed learning. The study found that *'this category of learning has been significantly strengthened by the spread of the Internet; an aspect of lifelong learning that deserves a study in its own right'* (Candy, 2000:.110).

Participant 3

E-learning has potential if used well to be a positive influence in any of these categories: workplace-based learning; continuing professional education; further formal study; self-directed learning. However, the potential does not lie just in the format/technology. It is about the approach adopted, and it is in this area that the greatest challenge and potential lie.

Important rounded tutor skills in e-learning and PBL

The tutor's role has been key in this module in these four areas: managing how the participants engaged with the resources; a consideration of how the tutor promoted social interaction individually and collaboratively; and a cognitive responsibility as to how the tutor facilitated the participants building knowledge together.

Insert Figure 2.

Participant 4

Developing a sense of 'self' by the teacher in order to help the students engage with this out-of-body teacher on their computer.

Participant 2

The need to develop competency in the use of technology to support learning for individual learners in different context and situations.

The social context of tutoring is very critical for the success of any such course. Both students and tutors must have a social presence to enable them to effectively communicate, engage and to achieve the intended learning outcomes. The social context will involve socialization, ground rules, language of engagement, content etc.

*Have a sound knowledge of pedagogy: both online and for PBL;
Good facilitation and moderating skills;*

Have good assessment and feedback giving skills;

Ability to motivate, engage, guide and support learners;

Ability to engage in analytical reflection;

Ability to evaluate the outcome of a learning activity or course/curriculum;

Can time manage.

Tutor's Role on this Module

The tutor's role in this module is not at the content, but at the metacognitive level, where they model, scaffold and support learner thinking both f2f and online.

Insert Figure 3.

Participant 1

My approach was to draw on my considerable experience and to try to make this available for the students to provoke ideas, comments, etc.

Participant 2

Construction of Participant knowledge: providing prompts and scaffolding;

Promotion of lifelong learning skills in participants: highlighting the pedagogical imperatives of helping people to learn by doing and supporting them through appropriate activities to engage in self-directed learning;

Participant completion of interrelated learning activities: facilitating and consolidating connection learning;

Learning by practice: enhancement of knowledge, skills, practice and performance;

Use of self-directed learning: promoting the skills required to develop the autonomous learner;

Learning in authentic contexts: makes learning relevant for the learner and provides them with the language of discourse to enable them engage effectively with the learning process;

Engaging in critical reflective thinking: helping to develop metacognitive skills in the learners, i.e. equipping them with the skills to stand back and critically evaluate their work and use the insight gained to improve practice and performance;

Using well supported reasoning: to develop ability to engage in relevant critical discourse and debate; develop the ability to critical think, analyse, make link and deduce facts from information or data;

Implementing time management skills: it is important that learning is appropriately paced and the students is progressing well in relation to her ability and in line with set targets (individual and/or institutional, etc.);

Scaffolding learning: providing and deploying scaffolds at appropriate times based on individual needs.

In relation to the academic developer acting as a tutor on this module, they provided a synopsis of their experience in three areas: enjoyment of role, resources they brought and any challenges they encountered in the role.

Enjoyment of Tutoring Role on this Module

Participant 3

I enjoy the excitement of engaging with new people and the expectation of what might occur...

Participant 4

Sharing knowledge and experience and learning with others.

Resources one brings as a tutor

Participant 2

*Experience of being both an online learner and tutor;
Reading and reference text;
Acting as a resource person/sounding board for learners e.g. through
responding to their questions via CMC and videoconferencing.*

Challenges of tutoring on this module

Participant 4

*Learning something about the context in which the students were studying
and knowing a little about them;
Focusing on the assessment process – how to do it, how to make it
meaningful for the students.*

Participant 3

*Reliability of the technology; limited number of sessions which impacts on
not getting to know the students well with regard to their progress and
development on the module.*

Professional Development Opportunities and Concerns about Blended PBL

Online instruction is new to many tutors in higher education, and for good reason. In just a few years, it has grown from an academic experiment to a recognized alternative to traditional classroom learning. Even traditional classes have embraced many of the teaching methods popularized by online education.

Participant 2

*Technology is good to use as a medium for teaching and for supporting
learning... for a number of reasons: it provides versatility and flexibility; it
provides convenience; individuals can access learning anytime, at any place
and in the format they wish it; it can be used to support individualized and
group learning; it is good for developing collaborative, cooperative and
reflective learning.*

Concerns

*Technology must not drive learning – it should act as a support medium;
most of the technology are technologically driven and are not pedagogically
sound; educators do not match available technology to appropriate use -
we all seem to use them because they are available or because others use
them; some learners and teacher do not have the skills and know how to use
the technologies effectively and this can cause both frustration and/or give
the use of technology a 'bad name'.*

Tutor Pitfalls in Blended Communication

There is also potential for problems to occur in tutoring blended PBL. It is important to be aware of these, so appropriate strategies can be designed in advance or to deal with them as they arise. See Figure 4:

- Asking too many questions – balancing between those asked f2f and online;
- Transferring tutor anxiety onto the student;
- Finding a quick solution – only dealing with the presenting problem;
- Feeling inadequate with the student;
- Wanting to do everything for the student;
- Blocking the student's emotions;
- Wanting to be liked by the student;
- Being too busy to listen;
- Dictating and imposing your own values on the student;
- Not being clear about what you can and cannot offer in the way of help (fuzzy boundaries).

How does the innovation relate to macro issues in online learning and PBL?

This section of the chapter will offer practical implications and suggestions for other educational developers and academic staff interested in blending online and f2f problem-based learning. Emphasis needs to be placed on developing generic and scalable processes and by providing feedback to enable learners to influence their education provision. The findings from the questionnaire indicate the following as important when planning to blend PBL and e-learning:

Planning and management

- Plan how e-tutoring will be employed with f2f tutoring
- Establish the technical facilities necessary to support e-tutoring
- Provide administrative support online
- Provide learners with technical and subject matter expertise
- Initiate activities that will facilitate learning

Communicating with learners

- Establish relationships with new learners
- Communicate appropriately with learners
- Provide learners with support and encouragement

Integrating technology tools

- Use email for individual communication with learners
- Use bulletin boards and discussion forums for group communication with and between learners
- Use text, audio and video conferencing for communication with and between learners; choosing between communication technologies such as email, conferencing, chat or videoconferencing by the tutor will depend on what is appropriate to a given learning situation, rather than a knowledge of the technologies per se. Information retrieval skills will determine whether the tutor makes good use of the easy access to web resources as well as an ability to evaluate the quality of materials held on remote web sites.

Reflecting on participant and tutor experiences

- Assess learners' performance formatively
- Evaluate and continuously improve e-tutoring and f2f tutoring support

Conclusion

While it is not feasible to extrapolate the findings of the investigation beyond the present context, the analysis of this way of blending f2f and e-tutoring in academic development raises a number of issues worthy of comment. One issue concerns the leadership and facilitation of the learning community by the responsible subject tutors. In essence, there was a sense that the tutors were working to release participants from traditional control structures of time, space, content, discourse, assessment and teacher direction. The style of their response was public, shared, engaging and not judgmental. This can only be achieved by a tutor who knows when to change hats from being peremptory to moderate in their facilitation.

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