



**Bachelor of Arts
in
Educational Studies and Digital Technology**

Handbook

Version 4

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The following document outlines major issues that must be addressed while developing courses in the BA in Educational Studies and Digital Technology (ESDT) program. As a noteworthy point, the program business plan specifies that all courses in the program will be on a 3 year developmental cycle, i.e., after initial development, it is expected that approx. 1/3 of all 'course content' will be reviewed and renewed on a yearly basis. This will ensure that all courses are renewed every three years. Please be aware that if course descriptions and other relevant information must be changed, the changes will need to be passed through the appropriate committees in the faculty and at the university level (program curriculum committee, program committee, faculty council and CPRC).

1. Graduation Competencies

Graduates of this program will develop a number of competencies such as:

- Applying theoretical and practical knowledge of educational planning, delivery and assessment across the life span,
- Considering the learning strategies that meet the needs of learners in digital adult learning and early childhood environments,
- Planning learning that focuses on authentic, meaningful, and workplace applicable activities,
- Analysing the social and psychological issues that shape learning in a digital era,
- Critically evaluating how technology fits with models of learning.

2. Student Characteristics

As the program accepts students who hold two-year diplomas from Ontario community colleges and the equivalents in other jurisdictions, the student population in this program will have a significantly different makeup and orientation from the students in the B.Ed. program. In addition, since this program will be offered using a fully online format and therefore increasingly has the potential to become an international program, a wide diversity of personal characteristics should be expected in areas including:

- Age (ESDT students are generally older than typical undergraduate students; average age is in the early 30's)
- Gender (a fairly even mix)
- cultural background (wide variety as reflected in the GTA)
- geographic locality and time zones (currently most reside in the GTA but with interest being shown across Ontario, Canada and internationally)
- academic background (a mixture of 2-3 year college diplomas, certificates)
- educational goals
- lived experience
- career aspirations
- competency with digital technologies (huge variations, from those with little background to those who work in the industry)

In addition, all courses in the ESDT program will be open to students who are enrolled in other programs across the university. This will mean that there will be students coming directly from 1st, 2nd, 3rd and 4th year undergraduate programs directly into courses that are populated by older students with significantly different experiences and perspectives. It will be imperative to ensure

that learning scenarios used in each of the courses are sufficiently rich and complex to allow heterogeneous student teams to be significantly challenged. Having students with a diversity of backgrounds and experiences within collaborative teams will provide a rich assortment of ideas and concepts upon which problems and solutions can be built.

3. Admissions

Admission is competitive. Regardless of educational background, all applicants to undergraduate programs must have specific prerequisite subject knowledge for their intended program of study. The specific average or standing required for admission will vary from year to year. Students are selected by taking into consideration a wide range of criteria including school marks, distribution of subjects taken, and performance in subjects relevant to the academic program. Preference will be given to applicants with the best qualifications.

The BA in ESDT is currently admitting graduates with an Ontario college diploma or equivalent, with an overall B average or better. These students can receive up to 60 transfer credits towards the degree.

4. Program Orientation: Inquiry Based Learning or Problem Based Learning (PBL)

The following is taken from: *vanOostveen, R., Childs, E., Clarkson, J. & Flynn, K. (2015). Becoming close with others online: Distributed community building in online PBL courses. A full paper presentation for EdMedia 2015: World Conference on Educational Media and Technology, Montreal, Quebec, Canada, June 22-25, 2015.*

“The program is oriented towards the inclusion of Inquiry Based Learning (IBL) and Problem Based Learning (PBL) in each course. Inquiry Based Learning and the closely related Problem Based Learning strategies derive from the 1960s Guided Discovery movement as a response to traditional pedagogical techniques that emphasize the memorization of information. Both IBL and PBL start with the interrogation of a situation or a context and then identify/create questions or problems, find resources and develop knowledge in order to either suggest answers or solutions to the questions/problems. IBL and PBL strategies used in the ESDT program assume a social constructivist philosophical stance, requiring the generation of concepts and derivation of meaning by individuals while engaging in discourse with others.

“Inquiry-based learning” (n.d.) suggests that “inquiry-based learning starts by posing questions, problems or scenarios—rather than simply presenting established facts or portraying a smooth path to knowledge. The process is often assisted by a facilitator. Inquirers will identify and research issues and questions to develop their knowledge or solutions” (1st paragraph). Skills developed in IBL and PBL will then include question/problem finding or creating, as well as working towards answers/solutions. The products of IBL/PBL may include an application to a real-life situation; however, this is not required in all instances as the learners themselves may define the end product.

Inquiry based learning requires the development of “new content knowledge, pedagogical techniques, approaches to assessment, and classroom management. Students are equally challenged, as these innovations change how they interact in classrooms. Inquiry learning requires them to collaborate with peers, think deeply about complex concepts, relate new science content to their lives inside and outside school, and self-regulate their behaviour and

thinking across the weeks that an inquiry project might unfold” (Marx, Blumenfeld, Krajcik, Fishman, Soloway, Geier and Tal, 2004).

Alternatively, problem based learning can be defined as ‘a curriculum model designed around real life problems that are ill structured, open ended or ambiguous’ and it is suggested that ‘PBL engages students in intriguing, real and relevant intellectual inquiry and allows them to learn from these life situations’ (Fogarty, 1997).

Synchronous collaboration tools are vital for the effective use of IBL/PBL online because tools such as chat, shared whiteboards, video conferencing and group browsing are central to supporting collaboration or the negotiation of meaning within the inquiry/problem based learning team (vanOostveen, Desjardins & Bullock, 2010).

Students in the ESDT program may work physically and temporally removed from each other, but they share the same virtual space, working out what they need to learn to engage with the problem situation. The virtual space may include a shared whiteboard, video conferencing tool, email, a discussion board, Twitter or some combination of any or all of these (or other tools that the learners prefer to use). “What is also important is that students have both access to the objectives of the module and also the ability to negotiate their own learning needs in the context of the given outcomes. Facilitation occurs through the tutor having access to the ongoing discussions without necessarily participating in them. Tutors also provide real-time sessions with the PBL online team in order to engage with the discussion and facilitate the learning.” (Savin-baden, 2007, p23).”

The following is taken from: vanOostveen, R., Childs, E., Flynn, K. & Clarkson, J. (2014). Integration of PBL methodologies into online learning course and programs. A full paper presentation for the IADIS e-Learning 2014 Conference, July 15-18, 2014, Lisbon, Portugal.

“Regarding PBL, while reviewing the literature, it became apparent that a definition of problems was generally assumed but rarely, if ever, explicitly stated. Consequently, an initial formal attempt of defining a problem is presented here. In AEDT courses then, problems, as described in Figure 1, are viewed as the differential ($S_D - S_C$) between the current (S_C) situation and the desired (S_D) situation (vanOostveen, Desjardins & Bullock, 2010). The size of this differential is inversely proportional to the amount of knowledge (K) and Resources (R) that are available and required. Obstacles (O) present in the context must be taken into account and mitigated in some way. The role (Role) of the learner as determined by the past experience or training provides a lens or perspective through which the differential is viewed.

$$P \Leftrightarrow \left(\frac{O(S_D - S_C)}{K + R} \right) \text{Role}$$

Figure 1: A conjectural definition for problems (vanOostveen, Desjardins & Bullock, 2010).

Skills developed in IBL and PBL will then include question/problem finding or creating, as well as working towards answers/solutions. The products of IBL/PBL may include an application to a real- life situation; however, this is not required in all instances as the end product may be defined by the learners themselves.”

As there are numerous similarities between IBL and PBL, this program guide will treat both approaches as equivalent.

As this program is focused on an online niche, pursuing traditional teaching/learning techniques will not be advisable and in many cases they will be impossible. For instance, it will be impossible to set and invigilate traditional tests and exams. Consequently the orientation of the program will need to gravitate to a problem based learning style. This orientation has been broadly adopted in a wide variety of professional schools of medicine, engineering and beyond over the past 40-50 years. Since it's inception in McMaster University in the 1960's, PBL can be found in schools of health sciences, nursing, dentistry, pharmacy, veterinary medicine, public health, architecture, business, law, engineering, forestry, police science, social work, education and many other professional fields (Camp, 1996). The expansion worldwide has continued unabated since then (Savin-Baden, 2007a).

Problem-based learning online is defined here as students working in teams of four to six on a series of problem scenarios that combine to make up a module or unit that may then form a program. Students are expected to work collaboratively to solve or manage the problem. Students will work in real-time or asynchronously, but what is important that they work together.

Synchronous collaboration tools are vital for the effective use of PBL online because tools such chat, shared whiteboards, video conferencing and group browsing are central to ensuring collaboration within the problem based learning team.

Students may be working at a distance, but they will begin by working out what they need to learn to engage with the problem situation. This may take place through a shared whiteboard, conferencing or an email/discussion group. What is also important is that students have both access to the objectives of the module and also the ability to negotiate their own learning needs in the context of the given outcomes. Facilitation occurs through the tutor having access to the ongoing discussions without necessarily participating in them. Tutors also plan real-time sessions with the PBL online team in order to engage with the discussion and facilitate the learning." (Savin-baden, 2007b, p23)

The PBL orientation would require the setting of a context within which problems could be identified or an over-arching problem or multiple problems for the students to investigate. The assignments in the course then become the setting for the creation of solutions to the problem(s). Assessment tasks would be focused on process, rather than content, with gravitation to performance-based and other authentic assessment methods. In other words we need to be able to gather information about the learning process that students are experiencing, in addition to making judgments about the value of their work. The PBL work processes should primarily be collaborative between group members, as there is much to be gained from knowledge created by individuals joined in a community of learners. Accordingly, a wide variety of tools, applications, and environments, particularly tools which support collaboration, should be available for the students to work on and in. Prime examples of these types of applications are wikis, scaffolded knowledge building environments such as Knowledge Forum, as well as Google Docs.

5. Key principles in a PBL curriculum

- active learning
- integrated learning
- cumulative learning
- consistency in learning
- learning for understanding
(Engel, 1991, 1992)

6 A Models of Inquiry Based Learning (Banchi & Bell, 2008)

Level 1: Confirmation Inquiry The teacher has taught a particular science theme or topic. The teacher then develops questions and a procedure that guides students through an activity where the results are already known. This method is great to reinforce concepts taught and to introduce students into learning to follow procedures, collect and record data correctly and to confirm and deepen understandings.

Level 2: Structured Inquiry The teacher provides the initial question and an outline of the procedure. Students are to formulate explanations of their findings through evaluating and analyzing the data that they collect.

Level 3: Guided Inquiry The teacher only provides the research question for the students. The students are responsible for designing and following their own procedures to test that question and then communicate their results and findings.

Level 4: Open/True Inquiry Students formulate their own research question(s), design and follow through with a developed procedure, and communicate their findings and results. This type of inquiry is often seen in science fair contexts where students drive their own investigative questions.

6. B 5 Models of Problem-based Learning (Savin-Baden, 2000)

	Model 1 PBL for Epistemological Competence	Model II PBL for Professional Action	Model III PBL for Interdisciplinary Understanding	Model IV PBL for Transdisciplinary Learning	Model V PBL for Critical Contestability
Knowledge	Propositional	Practical and performative	Propositional, performative and practical	The examining and testing out of given knowledge and frameworks	Contingent, contextual and constructed
Learning	The use and management of a propositional body of knowledge to solve or manage a problem	The outcome- focused acquisition of knowledge and skills for the work place	The synthesis of knowledge with skills across discipline boundaries	Critical thought and decentering oneself from disciplines in order to understand them	A flexible entity that involves interrogation of frameworks
Problem Scenario	Limited-solutions already known and are designed to promote cognitive understanding	Focused on a real-life situation that requires an effective practical resolution	Acquiring knowledge to be able to do, therefore centred around knowledge with action	Characterized by resolving and managing dilemmas	Multi-dimensional, offering students options for alternative ways of knowing and being
Students	Receivers of knowledge who acquire and understand propositional knowledge through problem-solving	Pragmatists inducted into professional cultures who can undertake practical action	Integrators across boundaries	Independent thinkers who take up a critical stance towards learning	Explorers of underlying structures and belief systems
Facilitator	A guide to obtaining the solution and to understanding the correct propositional knowledge	A demonstrator of skills and a guide to 'best practice'	A coordinator of knowledge and skill acquisition across boundaries of both	An orchestrator of opportunities for learning (in its widest sense)	A commentator, a challenger and decoder of cultures, disciplines and traditions
Assessment	The testing of a body of knowledge to ensure students have developed epistemological competence	The testing of skills and competencies for the work place supported by a body of knowledge	The examination of skills and knowledge in a context that may have been learned out of context	The opportunity to demonstrate an integrated understanding of skills and personal and propositional knowledge across disciplines	Open-ended and flexible

7. Online Pedagogy Model

The following is taken from: vanOostveen, R., Childs, E., Clarkson, J. & Flynn, K. (2015). Becoming close with others online: Distributed community building in online PBL courses. A full paper presentation for EdMedia 2015: World Conference on Educational Media and Technology, Montreal, Quebec, Canada, June 22-25, 2015.

The ESDT program design philosophy is informed by the Online Pedagogy Model (UOIT Faculty of Education Graduate Online Pedagogy Committee, 2014) which builds from a Community of Inquiry (COI) model (Garrison, Anderson & Archer, 2000) and indicates that deep and meaningful learning within the program occurs at the intersection of two spheres: the social presence and the cognitive presence, while immersed within a digital space. Presence is simply understood to be the availability for interaction. The digital space referenced in the model is described in this paper. The space is fluid in that while there are some prescribed components, many of the tools are left to the choosing of the students, making use of the newer Open Educational Resources that are constantly appearing.

Fully Online Learning Community (FOLC) Model

Fully Online and Blended Learning Environments

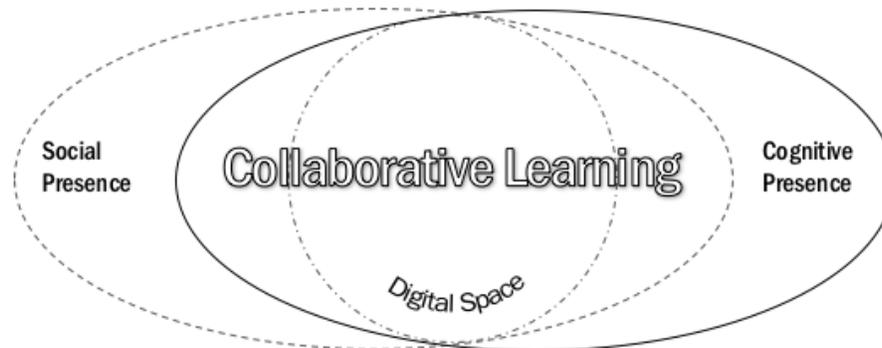


Figure 2: The Fully Online Learning Community (FOLC) model. Formerly the BA ESDT Program Design Model. (vanOostveen, DiGiuseppe, Barber, Blayone and Childs, 2016)

According to Anderson (2008), cognitive presence 'supports the development and growth of critical thinking skills. Cognitive presence is grounded in and defined by the study of a particular content' (p344). In the ESDT program, cognitive presence is established by students creating questions/problems, seeking out relevant information and actively engaging in building their understandings while producing their solutions as preliminary conjectures or hypotheses. In a similar fashion to the Garrison, Anderson & Archer (2000) CoI model, the FOLC model used in the ESDT program defines social presence as the building of a collegial environment that invites and supports students so that they will feel free to share their ideas without fear. However, unlike the CoI model, students in the ESDT courses are encouraged to actively seek out critical refutations from their colleagues and use these refutations as constructive feedback in order to improve the quality of the thinking. Each

course member is given a primary responsibility to engage in critical discussions surrounding each problem.

Note that unlike the CoI model, there is no 'teacher presence' in the FOLC model. This aspect is omitted in order to attempt to produce a horizontally flat environment that is devoid of the power structures that are readily apparent in classrooms where there is a strict hierarchy. Each member of the class, regardless of 'position' (student, instructor or teaching assistant) is viewed as a 'learner', each with valid past experiences, perceptions and responsibilities. This results in a space that is characterized as 'collaborative learning'. This type of learning requires all parties involved in a project to work jointly towards solutions that will be co-owned by all since there is no division of labour and all decisions are reached through social negotiations, enabling differing and possibly conflicting views to merge resulting in the creation of new, complex and previously unimagined understandings/solutions to the originally presented contexts (Eaves, 2007; Conrad & Donaldson, 2011). The fluid nature of the interactions conducted during the tutorials, as well as the conversations in small groups working on tasks and assignments resulted in the development of a learning community (Luppardini, 2007; Rheingold, 2012; Lave & Wenger, 1991; Kowch & Schwier, 1997).

8. Online Communities

The following is taken from: Childs, E., vanOostveen, R., Flynn, K. & Clarkson, J. (2015). Community building in online PBL courses: Instigating criticality. A full paper presentation for the Higher Education in Transformation Symposium, March 30 – April 1, 2015, Dublin, Ireland.

All of the aspects of the BA ESDT program design model allow for a diminution of the transactional distance between individuals within the community as all members, regardless of whether in the role of professor, TA or students, are able to see themselves as learners within the virtual space. To be sure, each member is learning different things but all are working together in a collaborative way, supporting and challenging as is appropriate to the circumstance.

As Conrad & Donaldson (2011) outline, student engagement is a collaborative process that is intentionally encouraged, evidenced by key elements and includes one or more of the following:

- Establishing their own learning goals
- Working together in groups
- Exploring appropriate resources to answer meaningful questions
- Completing tasks that are multidisciplinary and authentic, with connections to the real World
- Being assessed on an ongoing and performance based way
- Sharing work products with an audience beyond the classroom with the ability to add value outside the learning environment (p. 6)

The Canadian Education Association (CEA) studied student engagement in the K-12 sector and subsequently developed a framework to describe the forms of engagement – social, institutional, and intellectual. Of the three, fostering intellectual engagement is more challenging as it appears to contain two dimensions: 1) encouraging student rigor,

relevance, interest, motivation and effort and, 2) creating instructional challenges which builds on Csikszentmihalyi's theory of Flow (Willm & Friesen, 2012) and supports many of the principles of PBL (Engel, 1991) and models of PBD (Savin-Baden, 2000).

The use of online communities as a vehicle by which to foster engagement is well documented in the literature (Luppicini, 2007; Palloff & Pratt, 1999). As identified by Lock (2007, p. 130) a community is "a process that is fluid in nature and "requires a highly interactive, loosely structured organization with tightly knit relations based on personal persuasion and interdependence" (Kowch & Schwier, 1997, p.2). The work done on communities of practice by Lave & Wenger (1991) and on online communities (Luppicini, 2007; Rheingold, 2012) focuses on moving individuals from the role of lurker to one of legitimate peripheral participation. Rheingold (2012) discusses how the quality of this collaborative participation can contribute to the creation of new knowledge in new ways.

The online community initially established in YouTube, Adobe Connect and other Open Educational Resources are augmented with shared resources in a variety of social media sites such as LinkedIn, Google Groups, FaceBook Pages and Twitter.

9. Authentic (Performance-Based) Assessment Orientation

The following is taken from: Tai, G.X-L. & Yuen, M.C. (2007). Authentic assessment strategies in problem based learning. A paper presentation at Ascilite 2007, Signapore, MY.

"Like most PBL courses, these courses present students with complex, open-ended project and tasks that require integration of knowledge and skills in their problem solving. Contrary to conventional learning, PBL construct knowledge in a flexible environment and is action oriented (Moursund, 1999). In PBL, the lecturers and tutors acts only as a facilitator, a resource guide or a consultant in encouraging students' participation, providing resources and advice to students as they carry out their research to collect and analyze information, make discoveries, and report their findings. (Aspy, Aspy & Quimby, 1993).

Students take responsibility for their own learning as PBL encourages students to identify their learning needs and determine the resources they will need to use to accomplish their tasks (Bridges & Hallinger, 1991). PBL also encourages collaborative and cooperative learning among students and their peers; students play the key role in encouraging learning in this collaborative setting (Neo, 2003).

As the curriculum content in PBL is authentic and resembles the real-world setting, evaluation for students' work turn into authentic assessment which measure their performance and learning of the authentic content (Moursund, 1999). As students are responsible for their own learning in PBL setting, students learn self-reflection where they become proficient in assessing their own progression in learning and also peer-assessment on how to effectively provide constructive feedback to their peers (Moursund, 1999).

In assessing PBL, authentic assessment seems as a more appropriate means to assess learning compared to traditional assessments such as norm-reference and standardised testing that assesses recall of factual content knowledge (Torrance, 1995; Herington & Herington, 1998, Ward & Lee, 2002). Authentic assessment utilizes performance samples or learning activities that encourage students to use higher-order thinking skills. Wiggins

(1990) compared the difference between traditional and authentic assessment, and stresses that assessment is authentic if it is realistic and requires that students use knowledge obtained in many ways.”

For further information regarding the concept of Authentic Assessment see:
Larmer, J. (2012). PBL: What Does It Take for a Project to Be “Authentic”? Retrieved from <http://www.edutopia.org/blog/authentic-project-based-learning-john-larmer>

10. The TA (Tutor/Facilitator) in PBL

“The role of the tutor in problem-based learning is to scaffold students learning” (de Grave, Dolmans & van der Vleuten, 1999, p.901) in order to:

- Simulate the elaboration of information and ideas;
- Guide the learning process, including stimulation of reflection on the learning process;
- Stimulate the creation and integration of knowledge, and
- Stimulate and support student interaction and individual accountability (de Grave, Dolmans, van der Vleuten, 1999).

An expert PBL tutor:

- Has subject matter knowledge but also subject specific pedagogical knowledge to deal with difficulties students encounter, as well as more general pedagogical knowledge;
- Displays a high level of affective support and nurtures students;
- Uses a Socratic style of questioning to help students build knowledge;
- Makes increasing demands on students in successive sessions
- Conveys high expectations in an indirect and understated fashion
- Helps students to articulate their reasoning and the assumptions underlying their thinking and helps students to generate their own answers
- Devotes substantial effort to encouraging and motivating students
(Retrieved from <http://www.docstoc.com/docs/33383889/Applying-Problem-Based-Learning>)

On a practical note, Teaching Assistants (TA) are assigned to an ESDT course by the Program Director according to the following schedule:

Each course is initially scheduled with 2 tutorial sessions; usually a 12noon session and a 6pm session. These sessions are made available to the students, both ESDT registered students and students from other faculties who are taking ESDT courses as electives, through MyCampus. All tutorial sessions are capped at 30 students. When both sessions near capacity (approximately 55 students) an additional session should be made available (through consultation with the FED BPO), usually at 9pm. A TA is assigned to each course (for a maximum of 5 hr/wk x 14wk = 70hr) for student registrations in excess of 60 to a maximum of 120 students. TAs may perform the following course work: preparation and reading, leading tutorials, marking and entering marks, student consultation, and meeting with instructor regularly. A sample form can be found in the DropBox BA Courses folder.

11. Principles in PBL Online Facilitation (Taken from Savin-Baden, 2007b, p53-55)

- a) "Although it is possible to plan the program well in advance and for staff members to undertake an e-moderation program, there are some principles of facilitating PBL online that differ from other models of e-moderation, in which facilitators should:
Guide but not interrupt. There is a tendency, particularly at the start of a session where students are presented with a new problem or activity, to interrupt or even pre-intervene by asking leading questions before the team have had a chance to discuss the problem. For example, if there is silence some staff will begin the scenario for the students by asking a question. It is better to wait, or to ask a gentle question such as 'what are the team thinking about this?'"
- b) Represent etiquette. Although much has been written on online etiquette (netiquette) there are differences in PBL online, particularly in relation to respecting silence, promoting student autonomy, and not interrupting when flaming occurs. This is largely because if facilitators interrupt or take control the locus of control shifts to the member of staff and the team does not deal with the problem or conflict themselves. There is a delicate balance here, but it is important for staff to model this and also to help students develop their own ground rules for their team.
- c) Acknowledge and use prior experience. Many tutors feel that becoming a facilitator seems to be such a different role when they first begin that often they forget to draw on their prior experience. It is important to draw on earlier experiences, for example, one approach might be to reflect on the experience of being supervised in a research project.

Often the supervisor guides the students in the early stages of the project, but towards the end the students may overtake their knowledge base. Another option might be to imagine the facilitator role as being that of a non-directive counselor who uses reflection and questioning rather than direction.

Recognize that being a facilitator means also being a learner. This might mean learning to develop the capabilities of a facilitator and learning new knowledge with and through the students. The process of becoming a facilitator also demands developing and understanding the way in which facilitator and team influence one another in the learning process.

- a) Ensure that the team's concerns are heard. Active listening skills are a prerequisite to good communication and are one of the most effective tools for helping online teams manage conflict. There is often an assumption that 'hearing' what is occurring online is very difficult, but learning to read the subtext of discussion forums and chat sessions is a skill facilitators need to develop. Although this is complex to begin with, the ability to read team interactions in online spaces does develop over time.
- b) Listen and lurk positively. There is often a tendency, after using straight forward online learning, to retain control rather than granting it to the students. The notion of 'lurking' often seems to imply that silence and watching are inherently bad, but students often need to watch and listen in PBL online, so it is important not to confuse lurking with thinking space.

- c) Provide supportive intervention. It is often easy to assume that not intervening means maintaining silence, but it is useful if students 'know' you are part of the discussion. Rather than just lurking it is helpful to students if the facilitators add some remark that illustrates they are listening and supporting the learning, but in a way that does not interrupt the students' discussion. Although this is difficult, statements such as 'I think this an interesting discussion' or 'would all the team agree with this?', are useful general statements for supporting students.
- d) Promote personal reflection. Rather than weaving and summarizing the discussion as a facilitator, it is possible to encourage the students to reflect and summarize their own discussion and stances at the end of a given time period or problem. This encourages not only group reflection but also the synthesis of the process of what has occurred, as well as the synthesis of the information that has been collected and collated.
- e) Encourage learner criticality. One of the most difficult capabilities for students in PBL online is in taking a critical stance. Many of those who have researched PBL online report that there is a tendency for students to focus on the process of learning and the information collected, rather than taking a critical stance towards the way they are working and the knowledge produced. Ways of encouraging the development of criticality include the use of a team wiki, using blogs for assessment and asking students to summarize and critique each others' contributions. The latter activity is very demanding of students and often difficult to do, but if the teams have been well supported and are cohesive this is often a possibility. One way of beginning this process is to use interesting activities within the team which are competitive, such as treasure hunts, but where the team themselves have to decide which team member wins and say why this is.
- f) Use intuition. In the context of PBL online little attention has been given to the role of intuition in facilitation. Arguments abound as to whether uploading handouts and detailed lecture notes on to Blackboard is something that helps or hinders student learning. Yet both staff and students' stories of their experience of PBL online would seem to suggest that intuition is very much part of the process of learning and facilitation. Facilitators often speak of knowing when the team is going well, but also of times when there were difficulties in the team, that they could neither define nor verbalize how they even knew were present.

However, it is important to note that there are also many difficulties in using PBL online and Donnelly (2006, p.96) has suggested that the following might occur in PBL online:

- Asking too many questions - balancing between those asked face-to-face and online;
- Transferring your 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 students;
- 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).

The balance between freedoms and constraints, and technological and pedagogical elements is a constant challenge in PBL online facilitation. However, as Collision et al. (2000) point out, there is a need to open up online spaces and provide freedom for students to ‘hang out’ in spaces which are not facilitated or ‘policed’ by teaching staff.”

In order to facilitate this ‘hang out’ space, we have been able to establish a ‘BA General Room’ in Adobe Connect available to the students, and instructors 24/7, 365 days/year, just as there is in the Grad program.

12. Common Course Format

A typical 36 hour (3 credits) course in the BA program will be articulated in 12 mandatory weekly modules each including:

- 1 hour of interrogation of a series of 1-3 YouTube based video clips that are designed to present contexts/situations. Students are to work through video clips, which are structured as modified PBLOs using the embedded analysis and synthesis questions, in order to construct/create problems or questions that will form the basis of the investigations to be undertaken by students. The interrogation of the videos will also form the basis for the discussion that will occur in the subsequent tutorial sessions.
- 1 hour of synchronous group activities (tutorials) using a videoconferencing application such as (Adobe Connect) facilitated by instructor/Teaching Assistant per 30 students
- Equivalent of one hour of work to be done online a/synchronously (i.e. blogs, wiki entries, Google Drive, etc.)

Specifics

A. *Video Clips in YouTube (1 hour per weekly session)*

The video clips will have the following common characteristics:

- 2 or 3 clips, each of 6-10min. total length, per session
- Common format for 10sec. “intro” and 5sec. “outro” (can be provided by T&L)
- Creative Commons Attribution Licensing (reuse allowed)
(<http://creativecommons.org/licenses/by/2.5/ca/>)
- Posted to YouTube using the already established BA program channels
- YouTube Broadcasting and Sharing using the Public (recommended) or Unlisted categories.
- Use a minimum 720p resolution to allow for viewing on a wide variety of platforms including mobile devices. Higher resolutions are possible as they are scalable downwards.
- It is recommended that videos be rendered in the mp4 format which allows for maximum flexibility for redistribution purposes.
- Incorporate 3-5 analysis questions at the beginning of every clip. Analysis questions are designed to invite the viewer to break down the remainder of the video clip into component parts in order to identify embedded problems (inductive processes).
- Conclude each video clip with 3-5 synthesis questions. Synthesis questions are designed to invite the viewer to compile information gleaned from the video clip content to propose

solutions (deductive processes).

- Should provide a context/situation within which problems are embedded (either implicitly derived by the viewers or explicitly stated by the instructor)
- Do not include the date of the current course on the video clip as this may cause confusion for students.
- All images and other materials for which copyright permissions will be required need to be identified prior to the final production of video clips so that the appropriate references can be included (see Copyright section below)
- Developers might consider including space for a variety of video clips that can be generated based on comments/questions elicited from students by the TA in tutorial sessions. In some courses, discussions/interviews with colleagues were conducted on camera in Adobe Connect and then posted back as a response to the students on YouTube. Students reacted very positively to this form of interaction with the instructor. There are several examples of this type in the PBL course conducted last summer (see Session 3 Video clip 1 Parts 1 & 2 as an example)

Content

Video clip content can be organized in a number of different ways including the following:

- Voice-overs added to a PowerPoint/Keynote presentation file (please ensure that high resolution graphics are used since there is significant degradation of resolution when the video is compressed for display on some devices).
- Discussion/interviews conducted and recorded in Adobe Connect (expect to do some editing for length, etc. and re-rendering as Connect provides Flash format for downloaded files).
- Linking to video, images, applications, etc. within presentation files is encouraged as this helps to avoid copyright/permission issues.
- Other methods of generating video clip content are possible but are more technically oriented and therefore their usage should be used with discretion depending on developer video creation competency, in order to decrease the demands on the multimedia technicians and to shorten development timelines.
- All video clips must be accompanied by a closed caption script of the audio/dialogue as required by the Accessibility for Ontarians with Disabilities Act (AODA). Closed captioning of video clips falls under the responsibility of UOIT Disability Services. In order to have closed captions created for all video clips, access to the video clips and scripts for the clips is required. All materials must be stored in the provided shared DropBox folders.
- Copyright/permissions for identified materials will be requested by UOIT Library personnel.

i) Video-Clips as Modified PBLOs

The following is taken from: vanOostveen, R., Childs, E., Flynn, K. & Clarkson, J. (2014). Integration of PBL methodologies into online learning course and programs. A full paper presentation for the IADIS e-Learning 2014 Conference, July 15-18, 2014, Lisbon, Portugal.

“A Problem Based Learning Object (PBLO) is a reusable, multimedia tool that is comprised of four templated ‘pages’ of information (vanOostveen, Desjardins, & Bullock, 2010). Each page has a specific purpose and function, which are grounded in theories of social constructivism, communities of learners, and make use of problem based learning principles (vanOostveen, Desjardins, & Bullock, 2010). PBLOs are self-contained tools that make use of multimedia

including video-based case studies to present a situation to the learner or group of learners, which are used to stimulate discourse within students (vanOostveen, Desjardins, & Bullock, 2010). Modified versions of PBLOs are used throughout the ESDT program as a guideline or best practice for the development of course video clips.

The first 'page' of a PBLO contains a video-based case study as well as a set of analysis questions. The inclusion of a video-based case study provides the learner with a situation from which they can formulate a problem, as seen in Figure 1, with learners determining the situation, their roles, and identifying their available resources. These case studies form the basis for the PBLO, providing learners with an 'own' type problem as previously discussed (Watts, 1991). This also follows Savin-Baden's (2000) Model V scenario of learners having autonomy of their learning. In order to maintain an environment that is both open-ended and student-directed, see Figure 2, videos must provide a contextualized situation but should not direct the learner to a specific problem, nor be used to deliver content (vanOostveen, Desjardins, & Bullock, 2010). These video-based case studies provide what Fogarty (1997) refers to as ill-structured and ambiguous situations that are then constructed by the learner into a problem to be solved. The first page of the PBLO also contains a number of analysis type questions that act as a guide to the learners allowing them to formulate a hypothesis, as well as provide context to the case study (vanOostveen, Desjardins, & Bullock, 2010). Facilitators use these questions as the basis for discussion during tutorial sessions.

The second 'page' of the PBLO contains contextual information for the video-based case study, which provides learners with additional pieces of information regarding the situation depicted within the video clip (vanOostveen, 2013; vanOostveen, Desjardins, & Bullock, 2010). This offers learners some resources, as well as potential obstacles that may be present in the situation. This information could be background information about the given situation, or it may serve to highlight information provided in the case study. Again, this process falls into the field of student-directed and open-ended as depicted in Figure 2, so it is important to ensure this information is not leading the learner in a specific direction. Providing contextual information allows the learner to be immersed within the authenticity or situatedness of the case study (vanOostveen, 2013; vanOostveen, Desjardins, & Bullock, 2010).

The third page of the PBLO focuses on theoretical information regarding the video-based case study by providing a metaphorical lens that should provide alternative perspectives to the learner (vanOostveen 2013; vanOostveen, Desjardins, & Bullock, 2010). Theoretical information consists of theories or constructs that relate to the situation presented within the PBLO (vanOostveen, 2013). The purpose of this information is to provide the learner with an alternative lens with which to view the situation, essentially challenging the role or preconceived perception of the learner (vanOostveen, 2013). This notion of challenging the learner's perception of the situation roots itself in constructivist principles, allowing for the potential for the learner's schema to be altered (vanOostveen, Desjardins, & Bullock, 2010).

The fourth and final page of the PBLO presents the learner with the video-based case study a second time, however it is now paired with synthesis questions (vanOostveen, Desjardins, & Bullock, 2010). There are typically three to four synthesis type questions that are open-ended and ambiguous (Fogarty, 1997). The inclusion of these questions are crucial to help foster knowledge creation in learners (vanOostveen, Desjardins, & Bullock, 2010). Through

these questions, learners are challenged to formulate conjectures and to invite refutations using methods of inductive and deductive reasoning (Popper, 1963). Additionally, these questions serve to create a sense of cognitive dissonance in the mind of the learner from where learning can occur (Piaget, 1972). Facilitators are then able to use these questions during tutorial sessions to increase the sensation of dissonance, helping learners create their own knowledge and understandings, as seen in Savin-Baden’s (2000) Model V problem scenarios. The video clips that are created by faculty in the AEDT program use a modified version of the PBLO structure, containing analysis and synthesis questions as well as contextual and theoretical information. These video clips provide learners with a contextualized situation that promotes knowledge creation, as show in a course videoclip regarding the construction of knowledge within a community of practice (vanOostveen, 2013).”

Avoid

- The ‘talking head’ lecture format;
- Reusing graphics/video that is available in other locations (merely insert the url instead, if appropriate);
- Embedding images, quotes, etc. without permissions and without references.
- Multiple slides of textual material, rather provide descriptions of situations (case study type information) that can be used to generate problem statements.

Week	1	2	3	4	5	6	7	8	9	10	11	12
Problem	Scenario A			Scenario B			Scenario C			Scenario D		
Workflow	Identify Problem, resources and	Collaborative Learning	Synthesis									
Resources to Support PBL	<ul style="list-style-type: none"> • Video clip -scenario • Tutorials using Analysis/Synthesis questions • Assignments and Assessment Tasks 											

Table 1: Suggested alignment of PBL scenarios and additional resources. (Modified from Savin-Baden, 2007).

ii) Copyright Guidelines: Images in Instructional Videos

1. Use copyright-exempt images whenever possible.

What is a copyright-exempt image?

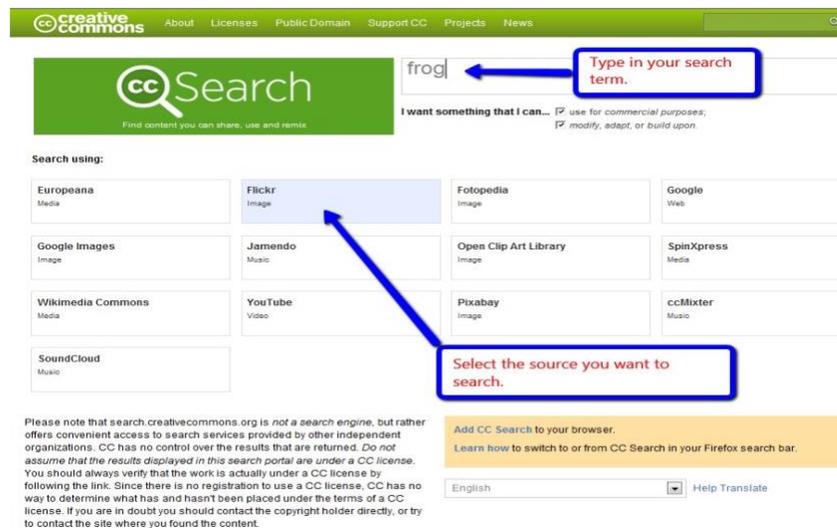
Copyright-exempt images are those that do not require permission to be used. They include images in the public domain and images with [Creative Commons licenses](#) attached, among others.

How do I find copyright-exempt images?

You can find an image that is copyright-exempt or licensed for use by searching websites that collect or link to such images. [Creative Commons Search](#) is one example. For more websites, see the **Copyright Exempt** page in the UOIT Library's [Copyright Guide](#).

Example:

Using Creative Commons Search to find CC-licensed Flickr images. <http://search.creativecommons.org>



2. Look for copyright information.

Look for a copyright statement near the image or on the website's 'terms of use' or 'copyright' page. You may find a statement that forbids copying the image without permission, that provides guidelines for using the image, etc. Examples of copyright statements:

- An [image](#) that [costs money to license](#).
- A stock photo website that allows users to copy images, but that requires them to include [special wording when acknowledging the website and creator](#).

3. When permission is required to use an image, contact the Library's copyright staff.

You may have the right to use an image for a number of reasons. For example, use of the image may be allowed because of:

- [Fair Dealing](#) guidelines
- The university's Access Copyright license
- The fact that the image is Creative Commons-licensed, in the public domain, etc.

However, you will likely come across images that require permission to use. In those cases, if you still wish to use the images, complete the Library's **Copyright Request Form**:

- http://copyrightform.provost.uoit.ca/Copyright_Form.php

The request will go to the copyright@uoit.ca mailbox where it will be reviewed by the Library's copyright staff, Janet Martin and Stephanie Orfano. Works that cannot be cleared cannot be copied. You can also send general questions to this email address.

Workflow Suggestion: If you determine that you require copyright permission to use an image, send the image, and a link to the image source, to Library copyright staff as soon as possible. This way, there is a better chance that all or most images will have copyright clearance by the time you are ready to produce your videos.

Tip: Maintain an editable version of your presentation/video until all images have been credited and, if needed, copyright-checked. It is more difficult to add attribution statements after a video has been produced.

4. Cite images properly to meet copyright requirements.

What citation information does the Copyright Act require?

The Act only specifies that the *creator* and the *source* of the work be cited ([29.1](#)). Generally, image citations should meet the same requirements as a text citation: a person should be able to find the source of the image, and the image itself, based on the information in the citation.

As you collect images to use, remember to write down key details about the images.

For example:

Creator name	Dave Challenger
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Source of the image, usually in the form of a URL to the image source page	http://www.flickr.com/photos/dchallender/34155689/
Image title (if any)	Frog
If it is a Creative Commons image, “you must make clear to others the license terms of the work.” The best way to do this is with a link to the license web page (Creative Commons, “ Marking ,” 2012).	<p><i>With hyperlink:</i></p> <p>Creative Commons Attribution-NonCommercial-ShareAlike 2.0</p> <p>Generic</p> <p><i>Without hyperlink:</i></p> <p>Creative Commons Attribution-NonCommercial-ShareAlike 2.0</p> <p>Generic. http://creativecommons.org/licenses/by-nc-sa/2.0/</p>

What about screen captured images?

If you are using a screen captured image of a website, cite the website.

Can I put citation/permission statements at the end of the video?

Citation or permission statements can either be added directly with the individual work, or grouped together in a separate bibliography at the end of the video. Keep in mind, however, that footnotes should be included next to the images. A “Copyright Permissions” slide with the corresponding list of works and the citation/permission statements can then be added at the end. (University of Manitoba, “[Copyright Checklist for Instructors](#),” 2012).

5.	Cite images and other works that <i>you</i> have created.
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It is highly recommended that you add citations/credits to your own works. No specific citation form is required. By adding this credit, you will ensure that anyone who wishes to reference or use your image will be able to credit your work properly.

Example: Figure 2.1 Bookshelves. © Colin Stoker, University of Ontario Institute of Technology

B. Tutorials conducted in Adobe Connect

In order to provide maximum flexibility tutorial sessions will be spaced throughout the 24 hours available per day. As the number of individuals registered in the program from other time zones increases the number of tutorial sessions in the evening/night times - for the Eastern (UTC-5) Time

Zone - will need to be increased. Shift workers will also need to be accommodated.

The structure of the tutorials will be most effective if there is a strong tie between the Video Clip portion of the courses and the tutorial sessions. Accordingly the use of Analysis and Synthesis questions becomes important as they provide that strong link and can be used as the basis for the discussions that will occur in the tutorial sessions.

Since the tutorial sessions will usually be facilitated by Teaching Assistants (TA), it will be vital that you establish a strong connection with the TA(s) for your course as they will be acting as front line contacts with the students. TAs will be responsible for conducting the tutorial synchronous sessions in Adobe Connect. It is therefore vital to ensure that a good relationship is established between the instructor and the TAs in a course and meetings be scheduled on a weekly basis. The TAs must also develop facilitation skills based on the principles of online facilitation listed earlier in this model. TAs may also participate in the grading of assignments and projects.

Web Cams should be used by all in every Adobe Connect session in order to establish a supportive learning community in which learners will be expected to work collaboratively with others. Facial expressions and body language are an important part of the environment and should be visible as much as possible. A culture of using the video affordances needs to be established within the program. Net etiquette or netiquette, as well as net ethics or nethics should be discussed and negotiated within the boundaries of each course in the context of the online environment. Break out rooms should be available for students to allow for small group work and to facilitate presentation of problem solutions, perhaps using a carousel type of structure.

It is important that students see the tutorial sessions as a vital part of the class, where they can meet with their peers and discuss topics of relevance to the course, particularly discussions revolving around the analysis and synthesis questions provided in the Video Clip portion of each course.

By the way, there are 'rock solid' free Adobe Connect apps available for mobile devices based on iOS, BB and Android operating systems. While these apps do not provide total functionality for giving presentations, they are excellent for providing video and audio presence for all participants. The use of these devices with the apps should be encouraged for students who need to be mobile.

C. Use of BlackBoard

For the time being, registration into each course will still require a BlackBoard presence. Students should be able to access the course syllabus, messages, etc. Please ensure that you activate at least those affordances within the BlackBoard environment. In the ESDT program there is currently a move

away from using Blackboard as the primary contact tool as it is viewed as being restrictive for the development of the desired online community. Instead, learners are encouraged to make use of the available Google for Education resources as these are tied to Uoit.net accounts that are available to all.

External Email Addresses

Many of the applications and tools that will be used in these courses will require an external email address (outside of BlackBoard) in order to register for access to the applications. It is suggested that an external email address service, such as UOIT.net or other Google gmail accounts be used for this purpose. Consequently, students should be directed to set up this type of address and to register it in the course. Each course instructor should establish this type of address as well for students to send share permissions to.

D. Equivalent of one hour of work to be done online a/synchronously

The final element of each module will include 2 hours devoted to online activities such as forum discussions, self-directed learning activities, etc., as specified in the course syllabus, using a wide variety of online resources. It should be noted that additional reading or other course work will be expected from the students, usually in the order of double or more the assigned number of course hours. A typical rule of thumb might be described to the students that they should be spending 2 additional hours to every hour of prescribed course work, therefore a 36hr. course might require 100hr. of time devoted to all of the activities.

Part of the orientation to PBL used within these courses will be the expectation that students will seek out their own resources and work at developing the skills required for the creation of their identified solutions without the direct supervision of the instructors. While the Blackboard course site will be the sole 'official' web site for each course, other environments should be explored, analyzed and used for purposes of gathering information, communicating with others and the building knowledge. The links for each of these may be posted on the Blackboard course web site if there is felt to be general applicability to all.

The major resources to be used for this program are Internet-based, that is they are available using an Internet connection. Some of these may only be accessed through the UOIT Library as they are restricted by licensing agreements. Others are freely accessible through services like YouTube, Twitter or Cmap. It is expected that all students in the program will use these resources in many different ways. There is a general orientation to Open Educational Resources (OER) within the BA program, allowing for the access and creation of documents and media that are free to be used for learning purposes. Please see the OER entry in Wikipedia for a further explanation (see http://en.wikipedia.org/wiki/Open_educational_resources)

It is expected that students will continue to develop intellectual independence throughout each course, i.e., the students should be expected to strike out on their own, not waiting to be told what tool to use or what to do, but to be adventurous and get started on their own. All course assignments should be listed in the course syllabus along with their due dates. Students will be expected to begin work on all assignments and course activities immediately at the beginning of each course.

Collaborative group work will be expected. Students will be expected to form a group of 3-4 students. These groups will be self-regulated in that each member of the group will be responsible for participating in the group work and as some of the assignments are graded on the basis of the project presented by the group, it is up to the group to determine who will be doing what and then ensuring that it is completed within the required time frame. Some assistance will be available from the course TA and instructor early in the course but this assistance should decrease over the course.

It is suggested that students be left to choose the tools with which they will be working. For instance, many groups may decide to collaboratively work in Google Drive, while others decide to work in Wiki spaces, etc. This choice of environments may be supplemented with specific tools that are designed to promote entire class interaction, e.g., a wiki or Knowledge Forum discussion groups may be established with the intent of having the entire class reflect on specific aspects or topics which were addressed in the course.

13. Software & Technical Requirements for the BA Program

Laptop

The BA (AEDT) program is a non-laptop program. As such, there is no requirement for the students to lease a laptop through UOIT. There are several requirements that must be met by the students in order to work successfully within the program. These are listed below.

Mobile Devices

Students may find that their experiences in online courses are enhanced with the use of mobile computing devices, including laptops, iPods, smartphones, tablets, or similar devices. The courses in this program should be found to encourage mobile thinking by providing mobile access to learning resources (both electronic and human) anytime, anywhere. Many of the applications listed below are currently supported by apps (on a variety of platforms), which permit direct connections to their features.

a) Adobe Connect

As this program is entirely online and uses Adobe Connect as a means to facilitate face-to-face communications, all candidates are required to have the necessary computer resources and ability to join and maintain a desktop video-conference (Adobe Connect) in order to participate in all classes.

Computer Participation in these courses requires all candidates to have access to a computer with these minimum characteristics:

- Operating system: Windows 7, MacOS X 10.5.x, Linux (e.g., Ubuntu)
- Video capabilities with either a built in or an external, compatible WebCam
- Audio capabilities with appropriate combination headset/microphone (external speakers are not acceptable as they tend to cause feedback noise)
- Apps for Adobe Connect are available for the iPad, Playbook and Android devices

Internet Access **

Students must also have Internet access with sufficient speed or bandwidth to allow full audio and video participation in Adobe Connect meetings. It is suggested that this connection be accessed from home as some schools and businesses may have firewalls that can block many feature of these courses such as the videoconferencing.

In order to verify the adequacy of your connection you should run and pass the Adobe Connect Self-Test: https://admin.acrobat.com/common/help/en/support/meeting_test.htm

A speed test for your internet connection can also be performed at <http://www.speedtest.net/>.

Minimum speeds for your connection should exceed:

2Mbps download speed AND

1Mbps upload speed

Minimum system requirements

Like all software, there are minimum system requirements for Adobe Connect. Please ensure that your laptop (or desktop) meets the minimum requirements listed here

<http://www.adobe.com/products/adobeconnect/tech-specs.html>

*NOTE: Once a session of Adobe Connect is finished, ending the meeting will allow the system to reallocate the bandwidth somewhere else and help to relieve the system from unnecessary loads. Using the guidelines above will assist in making the experience of synchronous online classes more enjoyable for all concerned.

Adobe Connect Tutorials - <http://tv.adobe.com/show/learn-adobe-connect-8/>

- b) Procedures to try if networks/servers go down while tutorial session is underway
- i) Close down the Connect Add-in window and try to log in again
 - ii) Check announcements/email in Blackboard to see if the TA has attempted to contact with further instructions regarding what should be done
 - iii) Log off for 15min and then try again. Repeat in 15min. Intervals for next 30-45min.
 - iv) Continue on with assignments and check email over the next day for further information from the TA.

- c) Expected Technical Requirements for Software Applications used in courses
Please be aware that this list is not prescriptive. The applications listed here are merely examples of software applications that could be used in the program.
- i) Skype (Video Conferencing - Client Based)
Client software for a wide variety of platforms (PC, Mac, Linux, as well as a number of mobile devices) is downloadable from <http://www.skype.com/intl/en/get-skype>
Apps for Skype exist for iPad and Android devices. A separate application (Video Chat) is provided on Playbook.
Tutorial - <https://support.skype.com/en-us/category/PROD/>
- ii) Google Drive (Collaborative Document Production and Editing - Browser Based)
Cloud-based software is accessible at: <https://drive.google.com/>
It may be of interest to note that Google has recently added synchronous functionality to Google Docs. This means that multiple users (must have shared access to the same document) can simultaneously edit/modify a Google doc and all modifications will be synchronously updated on the site.
Tutorial (1/4) - <http://www.youtube.com/watch?v=M0ZvYRU1Y5Y>
- iii) Blackboard Discussion, Blogging, Journaling (Browser Based)
This software tool (it's the same tool but it may be configured in a number of ways) can be found in Blackboard. Blackboard apps exist for iPad, Playbook and Android devices.
Tutorial - <http://ondemand.blackboard.com/communicate.htm>
- iv) Blogs (e.g., WordPress - Browser Based)
There are hundreds of blogs available on the internet. Many of these are available as downloadable and installable packages so that you can set these up on your own machines and/or websites. WordPress, a commonly used blogging tool used at UOIT, can be downloaded and installed this way (see <http://wordpress.org/download/>). An example of this type of use can be found at the website for the Journal of Educational Informatics (<http://www.journalofeducationalinformatics.ca/>). WordPress is also available as a hosted service where WordPress.com hosts your blog on their servers. (See <http://wordpress.com/>).
Tutorial - http://codex.wordpress.org/Introduction_to_Blogging
- v) MediaWiki (Browser Based)
"A wiki is a website that allows the creation and editing of any number of interlinked web pages via a web browser using a simplified markup language or WYSIWYG text editor. Wikis are typically powered by wiki software and are often used collaboratively by multiple users.

Examples include community websites, corporate intranets, knowledge managements systems, and note services. The software can also be used for personal note taking.

Wikis serve different purposes. Some permit control over different functions (levels of access). For example editing rights may permit changing, adding or removing material. Others may permit access without enforcing access control. Other rules can be imposed for organizing content."

Wikipedia.org (2011). Wiki. Retrieved from <http://en.wikipedia.org/wiki/Wiki>

There are hundreds of wikis available on the internet. Many of these are available as downloadable and installable packages so that you can set these up on your own machines and/or websites. Mediawiki, a commonly used wiki tool used at UOIT, can be downloaded and installed this way (<http://www.mediawiki.org/wiki/MediaWiki>). While the functionality of the wiki will be determined by the way the site has been configured, users can check out how to navigate, how to edit a page, etc. by following the link given above.

vi) Twitter (Browser Based or Client Based)

Twitter is a micro-blogging tool. The blog postings (known as 'tweets') in Twitter are limited to 140 characters, including symbols, spaces and punctuation. For further information see <http://twitter.com/about>

Twitter can be used as a backchannel (having a synchronous conversation with other networked users) alongside the main discussion occurring within the class. This is somewhat analogous to passing notes or having whispered discussions within classmates in a f2f setting. Twitter apps are also available for a broad range of Smartphones and other mobile devices such as iPads, Playbook and Android tablets.

Tutorial - <http://www.youtube.com/watch?v=J0xbjIE8cPM>

vii) Prezi (Browser Based)

Prezi is a powerful presentation tool that provides an alternative to the typical packages that are commonly used. See <http://prezi.com/index/>

Tutorial - <http://prezi.com/learn/>

viii) Instant Messaging, IM (Browser Based or Client Based)

Examples: Windows Live Messenger, Skype Chat, Adobe Connect Chat, Facebook Chat

It is assumed that most will already be familiar with tools that allow for synchronous text 'chat' sessions. Some of these are combined with whiteboard and file sharing affordances that provide additional functionality. Some of these tools allow for group texting but most are configured for individual to individual communication only. Similar functionality can be found with SMS (short message or text messaging) services on many cell phones and Smartphones.

Tutorial <http://www.top-windows-tutorials.com/install-windows-live-messenger.html>

ix) YouTube (Video Viewing and Posting, Browser Based)

YouTube (see <http://www.youtube.com/>) is a video-sharing service that may be used in your courses. Videos may be viewed using this services, however the real power comes with the ability that you have to create your own videos, post them to the online environment and share them with your colleagues. YouTube apps exist for iPad, Playbook and Android tablets.

Tutorial (Posting) - <http://www.youtube.com/watch?v= O7iUiftbKU>

Please note that this tutorial is 2 years old and there are slight discrepancies with the latest updates on the YouTube site.

x) Cmap (Client Based)

Cmap is a graphical organizer that allows for the construction, navigation, sharing and critique of concept maps (graphical depictions of personal knowledge schema). The downloadable client can be easily installed on individual machines. Server versions are also available. (see <http://cmap.ihmc.us/download/>)

Tutorial (There are a variety of presentations and videos which describe a variety of affordances provided by the cmap tool). <http://cmap.ihmc.us/support/help/>

xi) Knowledge Forum (WebKF - Browser Based)

The Knowledge Forum application provides users a collaborative scaffolded knowledge building environment within which posts, notes and multimedia files can be created. WebKF supports the development of learning communities with it's unique ability to reorganize posts on the fly as well as allowing for the creation of synthesis posts (rise-aboves) which subsume a variety of individual posts. For further information regarding Knowledge Forum, see <http://www.knowledgeforum.com/Kforum/products.htm>

If your course uses the WebKF application, you can access it at: <http://webkf.uoit.ca/login> .

For access to a WebKF database for your course, please contact Roland.

A demonstration version of the software application is available at:

<http://kforumhost.motion.com:8080/login?DBGroup= ?>

14. Textbooks and Other Resources

It is suggested that a textbook, at least a hardcopy version of a textbook might convey the message that the courses in this program are like other programs. This would not be accurate. As there are many resources available on the Internet and through library resources that may make it possible to do without a textbook. Perhaps a compromise position on the use of eBooks would make sense here. The UOIT library is contemplating a pilot project dealing with the acquisition of eBooks, perhaps starting with the Grad program and this one. The suggestion has been made

that faculty begin to compile a list of definitive texts in eBook format that address specific areas, fields and topics.

15. Development Templates

Course Outlines (see the attached EDUC4703U Course Outline as an exemplar)

The standard UOIT course outline can be used. Please be sure to use the course description and learning outcomes as presented in the program proposal as it is incumbent on us to ensure that the proposal is honoured as accepted by the UOIT Board of Governors.

It will be important to include as much detailed information as possible in the Course Schedule section of the course outline as this will serve as a roadmap to much of the activity for the students and TAs. You will need to identify the titles of all video clips here in order for the students to be aware of order, etc. I've found that placing an additional version of this schedule as a learning module in Blackboard helps the students as an additional reminder/road map.

Video Clip Session Script Template (see the attached videoclip_session_script_template.doc)

This template forms the basis for the development of the video clips that will be used for each course in this program. The template is a modified version of a template based on the structure of Problem Based Learning Objects, PBLs (vanOostveen, Desjardins & Bullock, 2010). Essentially there are 4 sections in the template. Section 1 will consist of one slide that incorporates 1-4 analysis questions. Section 2 will likely be the longest section consisting of up to 6 slides detailing the context in which the problems will be situated. The 1 slide found in Section 3 incorporates a theoretical lens that may be applied to the contextual information found in the previous section. The video clip will be completed with Section 4 which provides 1-4 synthesis questions.

Keep in mind that the templates will perform a variety of functions: providing the text for the 'voice over'/audio portion of the video clip, providing information which will outline the context/situation into which problems are embedded, as well as setting the analysis and synthesis questions which will be addressed in the tutorial sessions.

Presentation Files (PowerPoint/ Presentation/Key Note)

Following the script template, the presentation files provide the graphical (and textual) elements that will be used in the video clips. All images and text requiring permissions should be identified as soon as possible so that UOIT library staff (see the copyright section above) can get to work. Final scripts of required references, when received, should be included into the presentation files before recording the video versions of these files.

Video Files

These can be created in a number of ways. The easiest is through the use of Camtasia Studio on a PC. With this software you can record your own video clips by adding a 'voice over' or even picture-in-picture to an existing presentation file. All of the initial video clips available in DropBox

were created with this package. Controlling production on your own machine helps to regulate time lines since you are not reliant on others and iterations can be handled on your own, when errors are found. Additional assistance is available from UOIT Teaching and Learning staff. Other similar packages exist on the Apple platform. Uploading to YouTube can be accomplished independently. It is hope that a YouTube channel for the program can be established for ease of access by students.

UOIT.net Shared Folders

Copies of all files shared with you are available in the shared PBL elective course folder in UOIT.net. You are invited to view any of these files as they provide a detailed development record of the one course in this program that has been already produced and used with students. Please be sure not to modify any of the files in the shared folder as the folder is currently the production storage site for this course. Shared UOIT.net folders are a convenient way to transfer large files to others without the complications of transferring media. We will be making use of a BA Team account to store all of the files created for all of the courses so that we can share materials and practices across the program.

16. Development Schedule

A list of all courses currently scheduled for development, as well as those on tap for next year, are documented in the BA Course Implementation Schedule (see the shared UOIT.net folder).

Courses currently slated for development will need to hold to the following schedule:

Courses slated for implementation for Fall courses will need to have course outline, all video files, tutorial session outlines, plans for tasks/assignments/assessments completed and uploaded into UOIT.net by

Courses slated for implementation for Winter courses will need to have course outline, all video files, tutorial session outlines, plans for tasks/assignments/assessments completed and uploaded into UOIT.net by

17. Resources for Developers

An electronic copy of Maggi Savin-Baden's book, "A Practical Guide to Problem-Based Learning Online" is available for use through the UOIT library. Reading this book is highly recommended. Additional resources regarding PBL have been purchased and will be available in the library shortly.

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