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Lesson Plans Incorporating E-Learning
David Nandigam

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Lesson Plans Incorporating E-Learning
Year 10 (Term 1)

The popularity of online training has grown significantly since the early 1990s. E-learning, Computer-Based Training (CBT), Internet-Based Training (IBT), Web-Based Training (WBT) and a host of other names picked up along the way may be the wave of the learning future for people of all ages (Gilbert, 2005).

What is E-learning?
The primacy of E-learning is in its autonomy - it allows one to learn anywhere and usually at any time, as long as they have an access to a properly configured computer. It is, therefore, self-paced. E-learning can be CD-ROM-based, Network-based, Intranet-based or Internet-based. It can include text, video, audio, animation and virtual environments. It is Prensky's view that the present day students have grown up with these new technologies, and they are metaphorically described as 'digital natives' especially compared to other 'digital immigrants' such their parents and teachers.

The quality of teaching is in its content and its delivery. E-learning can suffer from many of the same pitfalls as classroom training, such as boring slides, monotonous speech, and little opportunity for interaction. However, e-learning has the potential to be a very rich learning experience because the '*digital convergence*' which is now possible with the advent of various software allows the creation of very effective learning environments as well as hands-on learning. Computer, therefore, is seen as an amplifier of children's thinking and an exploratory tool essentially scaffolding learning in many different ways especially in the age of Gein-i (Barbour, 2009).

With computers connected through the Internet, E-learning can offer information, cognitive tools and collaboration.

1. The most basic form of e-learning is the availability of multimedia artefacts and learning objects (e.g. Digistore) as well as the indexed explanations and guidance for software questions, along with step-by-step instructions for performing specific tasks (Refer to Lesson Plan 4). These are usually *moderately* interactive, meaning that students can either search the database through a key word, or make a selection from an alphabetical list.
2. Online support comes in the form of forums, chat rooms, online bulletin boards, e-mail, or live instant-messaging support (Refer to Lesson Plan 5 & 6). It is slightly more interactive in way of offering opportunity for more specific questions and answers, as well as more immediate answers.
3. Asynchronous training: This is e-learning in the more traditional sense of the word. It involves self-paced learning, CD-ROM-based, Network-based, Intranet-based or Internet-based. It may include access to instructors through online bulletin boards, online discussion groups and e-mail Or, it may be totally self-contained with links to reference materials in place of a live instructor. In Lesson plan 2 a blog is created (also refer to Lesson plans 5 & 6)
4. Synchronous training: Synchronous training is done in real-time with a live instructor facilitating the training. Everyone logs in at a set time and can communicate directly with the instructor and with each other (refer to Lesson Plan 7).

The Psychology of e-Learning

E-learning can incorporate many elements that make learning new material, a new process or a new program more fun. Obviously, every type of training can't be turned into e-training, but many can with excellent results. The keys to successful e-learning include:

- **Cognition:** Games, quizzes (refer to Lesson Plans 2 & 5) and creating and even manipulation of something on the screen engages student interest, which in turn builds better learning. Images, sounds and text work together to build memory in the brain and result in better understanding of the material: e.g.
  - using colours and specific colour combinations
  - combining images with words
  - combining sounds (or voice or music) with images
  - using multiple types of media
  - using layouts that flow with the natural movement of the eye
- **Contribution:** It is to aid learners to develop their knowledge, often through confronting apparent conflicts between experience and their mental models and discover their solutions themselves (Gance, 2002).
- **Collaboration:** Siemens points out that knowledge exists in networks of individuals; people draw ideas from others. E-learning activities can build in immediate feedback to correct misunderstood material. The more immediate the feedback the better, because each step of learning builds upon the previous step (Programmed Learning based on Behaviourist

Model (Skinner,1940 & Pavlov, 1960). If no feedback is given, then the next step may be building upon an incorrect interpretation.

- **Community:** Chat rooms, discussion boards, instant messaging and e-mail all offer effective interaction for e-learners and do a good job of replacing classroom discussions. Building an online learning-community significantly influences the success of individual learning.

References

[1] Gilbert, J. (2005). Catching the knowledge wave? The knowledge society and the future of education. Wellington: NZCER Press

[2] Barbour, M. (2009). Today's student and virtual schooling: The reality, the challenges, the promise... The Journal of Distance Learning, 31(1), 5-25.

[3] Prensky, M. (2001) Digital Natives, Digital Immigrants. Retrieved 9 August 2008 from http://www.marcprensky.com/writing/Prensky%20-%20Digital%20Natives,%20Digital%20Immigrants%20-%20Part1.pdf

[4] Siemens, G. (2004, 5 April 2005). Connectivism: A Learning Theory for the Digital Age. Retrieved 10 September 2008, from http://www.constructict.com/blog/wp-content/themes/kiwi/featurepics/WBLEAlan/LinkedDocuments/ConnectivismLearningintheDigitalAge.doc

[5] Gance, S. (2002). Are constructivism and computer-based learning environments incompatible? Interface, 2(3).

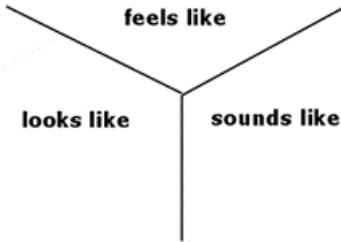Lesson Plan 1

Subject: ICT		Topic: Introducing brainstorming visibly	
Period:	Date:	Year: 10	Lesson #: 1

Resources: Try one of the following tools for concept mapping:
- Webspiration or a Bubbl.us (http://www.bubbl.us) or PREZI: http://prezi.com/

Learning Outcomes: By the end of the lesson the students will be able to
- plan and design a collage concept (concept mapping), and communicate their thinking.
- critique the mind-maps of others

Expected prior Knowledge:
- Students are familiar with Word processing tools and presentation programmes such as PPT
- Capture ideas by discussions, brainstorming, group-work and this lesson could be a refresher at the beginning of a new project.

Time	Activity	Content	Resources
2 – 5 Mts	Introduction…	Introduce students to the goals of the project:	Instructions for the tasks on the board or a handout
5 -7 mts	Understand how to use a mind-map	A mind map is a diagram used to represent words, ideas, tasks, or other items linked to and arranged around a central key word or idea. Mind maps are used to generate, visualize, structure, and classify ideas, and as an aid in study, organization, problem solving, decision making, and writing.	A PPT explaining mind-mapping: Mindmap samples/rubric: http://en.wikipedia.org/wiki/Mind_map
5 mts	Research the meaning of names and where they originated	Students investigate the meaning of their name, culture significance and reasons why it was chosen for them.	
10 – 15 mts	▪ Introduce an online mind-mapping tool ▪ Individual students register with Prezi	Students go through Step-by-Step Tutorial on Prezi Basics	http://prezi.com/learn/getting-started/
10 – 15 mts	Create a mind map about themselves.	Students use the tools in Prezi (to familiarise themselves) to generate, visualize, structure, and classify ideas about one aspect of their personal interests or life or beliefs etc	Prezi: http://prezi.com/
10 mts	Presenting	Students will choose between ▪ Speaking to present or ▪ Writing to share	Prezi: http://prezi.com/ Word processor PowerPoint

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Lesson Plan 2

Subject: ICT	**Topic**: Dynamics of working together in a group
Period:　　　　**Date**:	**Year**: 10　　　　**Lesson** #: 2

Resources:
- Try some multiple intelligence tests online
- Prepare a Y chart

Learning Outcomes: By the end of the lesson the students will be able to
- Understand group dynamics more explicitly and communicate their thinking well with others.
- Celebrate diversity and individuality (strengths and weaknesses)
- Plan the writing of the recount.

Expected prior Knowledge:
- Students are familiar with Word processing & presentation tools
- Working in groups and participation in online quizzes

Time	Activity	Content	Resources
2 – 5 Mts	Introduction…	Introduce students to the goals of the project:	Instructions for the tasks on the board or a handout
5-7mts	Understand that everyone learns differently and everyone has different strengths	Each student to complete a multiple intelligence test to identify their strengths and weakness. Share results. Class to celebrate differences.	Multiple Intelligence test: http://www.spannj.org/BasicRights/appendix_b.htm
10 - 15 mts	Identify appropriate protocols for working in groups	Class to create a Y chart following a discussion on what protocols are appropriate for working in groups. What should a group look like, sound like, feel like? Protocols are recorded and displayed in classroom for future teaching/reflection.	Y Chart template
2-3 mts	Establish student understands of the project.	Answer questions such as: - What is the purpose of the product?	Teacher to model and formulate *Success Criteria* with students

10 mts	Identify prior knowledge Create a timeline/flow chart of significant moments,	- Students sequence significant moments in their life to date. - From the timeline above students choose a significant moment personal to the student's experiences	Open Prezi and edit their mind-mapping diagrams to add the new dimension or to create a new time-line diagram.
10 mts	To identify key attributes of a recount experiences	Have students highlight features - strengths and areas for improvement : 'What makes an effective recount?' For example: Interesting vocabulary, correct punctuation, spelling, grammar, clear beginning, middle, end (sequencing), parts of speech (personification, onomatopoeia, metaphors, similes etc,) varied sentence length.	Formulate success criteria as a class Share an existing recount with the students.
10 mts	Plan the writing of the recount.	Write an interesting recount describing a significant personal experience Students edit (refer to success criteria) to improve writing constantly throughout process outside the class time and share with other: friends and family	Blog: Register with https://www.blogger.com

Lesson Plan 3

Subject: ICT		Topic: A Review of Design principles	
Period:	Date:	Year: 10	Lesson #: 3
Resources: The list of websites as exemplars			
Learning Outcomes: By the end of the lesson the students will be able to - Design principles, Emphasis/contrast (focal point) & Colour .			
Expected prior Knowledge: Students will have already looked at the principles of design (aesthetics and function); this lesson could be a refresher at the beginning of a new project.			

Time	Activity	Content	Resources
2 – 5 Mts	Introduction…	Introduce students to the goals of the project:	Instructions for the tasks on the board or a handout
10-15 mts	Knowledge development: ▪ Students create colour palettes ▪ Demonstrate understanding of a 'colour palette'.	▪ Discuss how the use of colour can impact on a technological outcome.	Design Principles.ppt Colour Wheels
10 mts	Write 'SMART' goals	Model writing SMART goals. Students to write academic, social, cultural, physical goals	Discuss what this means: Specific, Measurable, Achievable, Realistic, Time
20 mts	Planning exercise: Understand that planning is an ongoing process. Knowledge development	working in groups to answer the following: ▪ What planning tools might have been used to create this product? ▪ What might have been the key stages required when developing this product? ▪ At what stages in the development of the product would it have been necessary to undertake a review of the product? ▪ When might the technologist have reviewed their progress? ▪ What would have informed changes to the planning that was undertaken? Discussion: what it is important to have in a planning template e.g. key stages, resources etc.	Provide students with a range of familiar and unfamiliar products: ▪ www.dinosaurdesigns.com ▪ www.davidtrubridge.com ▪ www.huffer.co.nz ▪ www.threadless.com ▪ www.gadgetnation.net ▪ www.loyalloot.com ▪ www.farmdesigns.co.uk ▪ www.shin.co.nr
10 mts	To explore ideas for themes	Students brainstorm to identify potential focus themes for individual collage (e.g. interests, hobbies.)	Link students back to timelines/significant moment and update their mind maps

Lesson Plan 4

Subject: ICT		Topic: uniqueness of designing collages	
Period:	**Date**:	**Year**: 10	**Lesson** #: Several lessons

Resources:
- The step-by-step guides to understand collage building requirements
- Web-based online guides

Learning Outcomes: By the end of the lesson the students will be able to
- Manipulate digital images in a number of ways.

Expected prior Knowledge:
- Students will have already looked at the principles of design (aesthetics and function) and familiarised themselves with some photo-editing tools and techniques

Time	Activity	Content	Resources
2 – 5 Mts	Introduction…	Introduce students to the goals of the project:	Instructions for the tasks on the board or a handout
	Understanding the uniqueness of designing collages - explore a range of images considering their attributes for the final selection.	Students view examples of print-, web-, and video-based collages and discuss with students the types of design principles used in these collages	- http://www.jigsaw2order.com/photo_collage_projects.html
	Skill development: - Develop specific skills to enable the use of specialist equipment with independence - Use a range of images to manipulate and learn the techniques of building a collage.	Teach students skills in the use of photo-editing software to and competent usage progressively develop a collage - Navigating images: for rotating the canvas, or panning and zooming. - Assessing colour: to determine whether or not to adjust colour (levels, curves, and brightness) in a photograph. - Retouching: to remove unwanted elements, touch up selected areas, or remove red eye etc. - Selecting: to select a certain element of an image to copy and paste into a collage or even to correct a blemish - Cropping and straightening: to remove unwanted elements of a photograph.	- Tips for working with layers in Photoshop when creating collages: www.creativepro.com/story/feature/17023.html?origin=story. - Provide following materials/components to develop the necessary knowledge and skills **Photoshop guides:** - How to correct colour - How to retouch photos - How to generate different file formats - How to resize and crop images - How to use selection tools - Combining images in Photoshop

	Resizing: to adjust the size of the image.
	Resolution: to prepare the collage for printing (minimum for printing for 8x10 is 1600x1200 pixels).
	Combining images: to create panoramic images.
	Transforming photos: to scale, rotate, or skew a selection

Lesson Plan 5

Subject: ICT		Topic: Stakeholders: who are they?	
Period:	Date:	Year: 10	Lesson #: 5

Resources:
- Games to develop the interview skills

Learning Outcomes: By the end of the lesson the students will be able to
- Identify key stakeholders and develop interview techniques to gather requirements

Expected prior Knowledge:
- Students will have already looked at stakeholders in Year 9

Time	Activity	Content	Resources
2 – 5 Mts	Introduction…	Introduce students to the goals of the project:	Instructions for the tasks on the board or a handout
10 mts	Discuss who are the key stakeholders (e.g. other students), and others who may use the room (other family members).	review glossary definition of stakeholder. Students complete a personal profile detailing favourite colours, themes, stakeholders etc. Remind students to reflect on prior learning (timeline, recount, smarts, goal setting etc.	Introduce the Personal profile template. Personal Profile handout Guide students to identify the key stakeholders and consider the environment where the outcome will be located
25 mts	Draft key questions. Students use these to seek feedback from stakeholder. ▪ Interviewing skills ▪ Closed-ended and Open-ended questions	Write 'good' questions which are open ended and will provide a detailed response from the stakeholder. Questions need to be focused to elicit quality answers that can be used to inform next stage of practice.	Keys to good questions www.storydynamics.com/Articles/Education/interviewing.html The Games to teach interviewing: ▪ What Fairy Tale Character Am I? ▪ The Hidden Mystery ▪ Before & After ▪ The Awful Interviewer ▪ Next Steps
10 mts	Determine specific needs and theme for	▪ Students liaise with stakeholder/s to gather ideas	Guide students to consider the key stakeholders ideas/needs and the

their collage design.	of what would be acceptable for their collage ▪ compare what stakeholder/s thinks compared to research findings	environment where the outcome will be displayed: online forum, dedicated email set up Further research may be required to clarify ideas with stakeholder/s.

Lesson Plan 6

Subject: ICT	Topic: Brief Development		
Period:	Date:	Year: 10	Lesson #: several Lessons

Resources:
- Examples from other technology classes
- Examples from 'Techlink' website

Learning Outcomes: By the end of the lesson the students will be able to
- Liaise with key stakeholders and progressively check the outcome
- Develop an initial brief that identifies the specifications

Expected prior Knowledge:
- Students will have briefly looked at brief development in Year 9

Time	Activity	Content	Resources
2 – 5 Mts	Introduction…	Introduce students to the goals of the project:	Instructions for the tasks on the board or a handout
10 mts	Students write an initial brief.	Analyse a range of existing briefs to identify: ▪ Conceptual statements ▪ Specification including those that are measureable (objective) and attributes (subjective) ▪ Resources Constraints	Initial Brief handout
10 mts	Plan layout. Describe design ideas either through drawing and or models.	Conceptual Design: ▪ Students sketch possible designs for collage annotating designs to specify its physical and functional features.	▪ Continue to liaise with stakeholder/s to seek feedback on designs using key questions ▪ Students refine questions where necessary
10 mts	Draft an initial Plan	Students to consider time, resources and key stages to design their collage. Use recorded key stages as success criteria	Link back to planning discussed earlier. For example: Create a table –3 columns Steps/Resources/Time needed.

10 mts	Undertaking functional modelling to develop design ideas into a conceptual design that addresses the key attributes. ▪ Developing students understanding of functional modelling and why it is used.	Types of functional modelling: oral, physical and visual. ▪ Test stakeholder acceptance of the physical and functional features. ▪ Reflect on types of functional modelling undertaken to date (e.g.: interviewing stakeholders.)	Use examples from other technology classes to discuss their ▪ form (i.e. visual) ▪ purpose (i.e. to test).
	Describe design ideas either through drawing and or models.	Design development Sketch any changes to conceptual design. Continue to talk to stakeholders in order to seek feedback, showing concept ideas to seek feedback	Application of functioning modelling techniques Set up an online forum
	Evaluate suitability of images based on their properties to select those appropriate for a collage.	▪ Decide on suitable images to construct the collage. ▪ Continue to annotate design development. ▪ Test image suitability using functional models - mockups	

Lesson Plan 7

Subject: ICT		Topic: Final Brief	
Period:	Date:	Year: 10	Lesson #: 7

Resources:
- Final Brief handout
- Collage/evaluation handout
- Examples from 'Techlink' website

Learning Outcomes: By the end of the lesson the students will be able to
- Identify key stakeholders and progressively check the outcome

Expected prior Knowledge:
- Students will have briefly looked at brief development in Year 9

Time	Activity	Content	Resources
2 – 5 Mts	Introduction…	Introduce students to the goals of the project:	Instructions for the tasks on the board or a handout
10 mts	Writing final brief - Final	Brief must be written before starting the collage. Check specifications are measureable.	Final Brief handout
10 mts	Reflect on planning process	What have I found easy? What have I found difficult? How would I like my teacher to help me? Next step?	Students could set up an online chat client
15 mts	Construct individual collage	Students construct their conceptual design into a final prototype	
15 mts	Evaluate outcomes in site against key specifications.	Students evaluate the fitness for purpose of the final outcome (prototype) against their final brief including feedback from stakeholders.	Collage/evaluation handout Students can communicate using online chat
5mts	Students could evaluate their goals, match their timelines/significant moment (if selected) to classmates /peers.	Bring all learning together by having a celebration of 'self'.	Celebrate learning

Conclusion & Discussion

E-learning has definite benefits over traditional classroom training. While the most obvious are the flexibility, there are also others that might not be so obvious. For example:

- It's **less expensive** to produce: Using various authoring software (e.g. Adobe Captivate, Audacity) teachers can produce thier own asynchronous training programs.

- It's **self-paced** -- Most e-learning programs can be taken when needed. The "books" that you set up can create a module-based design allowing the learner to go through smaller chunks of training that can be used and absorbed for a while before moving on (e.g. Programmed Learning Materials).

- It moves **faster:** This is because the individualized approach allows learners to skip material they already know and understand and move onto the issues they need training on.

- It provides a **consistent** message: E-learning eliminates the problems associated with different instructors teaching slightly different material on the same subject.

- It can work from **any location and any time** - -E-learners can go through training sessions from anywhere, usually at anytime. This Just-In-Time (JIT) benefit can make learning possible for people who never would have been able to work it into their schedules prior to the development of e-learning.

- It can be **updated easily** and quickly -- Online e-learning sessions are especially easy to keep up-to-date because the updated materials are simply uploaded to a server. CD-ROM-based programs may be slightly more expensive to update and distribute, but still come out cheaper than reprinting manuals and retraining instructors.

- It can lead to **increased retention** and a stronger grasp on the subject -- This is because of the many elements that are combined in e-learning to reinforce the message, such as video, audio, quizzes, interaction, etc. There is also the ability to revisit or replay sections of the training that might not have been clear the first time around.

- It can be **easily managed** for large groups of students

Technology Unit Planner - Year 10

Unit Title: Canvas me	**School**: Massey High School
Curriculum Level: 5	**Duration**: 2 Weeks

Values highlighted in this unit	**Key competencies highlighted in this unit**
☑ Excellence – aiming high, persevering ☑ Innovation, enquiry and curiosity ☐ Diversity – culture, language, heritage ☐ Respect – for themselves and others ☐ Equity – fairness and social justice ☑ Community and participation for the common good ☐ Ecological sustainability - Care for the environment ☐ Integrity – accountability, honesty, acting ethically	☑ Managing self – self-motivation, personal goals, appropriate behaviour, resourcefulness, sense of self and importance of heritage ☐ Relating to others – listen actively, recognise different points of view, negotiate, share ideas ☑ Participating and contributing – balancing rights, roles and responsibilities, and responding appropriately as a group member ☑ Thinking – using creative, critical, meta-cognitive and reflective processes, drawing on personal knowledge and intuitions ☐ Using language, symbols, and texts – interpreting language and symbols, using ICT, recognising how choices of language and symbol affect people's understanding.

Technology Strands

Technological practice	**Technological knowledge**	**The Nature of Technology**
☑ Planning for practice ☑ Brief development ☑ Outcome development and evaluation Students able to develop a creative, innovative collage of images fully exploiting the design principles in order to represent their personality, interests etc	☑ Technological modelling ☑ Technological products Students understand that the images used influences the final outcome with regard to its fitness for purpose (i.e. selected for a display or publication in the magazine) ☐ Technological systems	☐ Characteristics of technology ☐ Characteristics of technological outcomes

Curriculum Area: ICT   **Theme**: Canvas me

Context setting: The broad objective of *Canvas Me* is to create a collage to be selected for a display organised by the school or published in the school magazine. Students, using their WLW images, design and make a collage that reflects an aspect or aspects of their personality, interests, or things that are important to them.

Learning Focus: The following are the objective of Canvas Me:
   a. Designing for a variety of audiences and needs
   b. Problem solving that helps support multiple perspectives
   c. Technical image manipulation and print publishing skills
   d. The design process and effective communication
   e. Peer evaluation in a collaborative environment
   f. Soft skills such as interviewing and responding to feedback

Related technology areas of learning: Visual Design, Digital Media Design, Digital Technology

Focus strand: Technology Practice

Selected Competency: While allowing for an understanding of fitness for purpose, Student's will need develop self-management skills in order to effectively plan ahead and manage resources efficiently when developing their collages

Selected Values: Achieving excellence and showing perseverance in producing an outcome of worth

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Integrated Learning Experiences
   a. **Arts**: the concepts addressed here are: *image-positioning*, *line, rule of thirds, typography, layout*, *composition*, *colour*, & *shape*.
   b. **Economics**: the concepts discussed are around *cost-feasibility* for print or graphic design field.
   c. **Social Studies**: the concepts discussed are around *audience* and *purpose*.
   d. **Language Use**: ideas discussed are around *writing for different audiences*, such as newspapers, brochures, or yearbooks.
   e. **Math**: the concepts discussed are s around *distance*, *perimeter*, *area*, and other measurement tools to gather data from images.

Team-Teaching: Team teaching some concepts with an art, business, English, or science teacher could provide students a great variety and an authentic experience. This could be effectively carried out by arranging students go into the other teacher's classroom for a change of atmosphere or inviting the other teacher into the classroom or even tailoring the project content to the content being covered by subject-area teachers.

Other Planning Considerations

a. **Authentic links to Community**: Students can benefit greatly from speaking with a professional designer. A field trip could be arranged to a design studio or a designer could be invited to visit classroom. Key topics to address with the designer:

- Teamwork and collaboration
- Effective design
- Samples of the designer's work and the challenges they presented
- Use of professional software in the design field
- Critique of student work

b. **Learning and thinking tools**: Concept mapping (producing a spider diagram to organise ideas) is a process for representing the relationship between ideas in a graphical way. Ideas (written or illustrated) are linked by arrows to indicate relationships between them. Traditionally this has been done by hand on paper or blackboards, but hand drawn diagrams are difficult to modify and computer programs have been developed to facilitate this. With a computerised concept maps it is easy to modify and rearrange the diagram as new information comes to hand, or new insights develop. Concept maps can be printed or e-mailed and saved as an image. The following free tools may be used:

- *Webspiration* - This is an online version available at http://www.mywebspiration.com
- *CmapTools* - This is a Freeware program for Windows which provides comprehensive features from http://cmap.ihmc.us
- *Bubbl.us* - This is a free, simple to use online concept mapping site to create colourful mind maps online, share and work with others and embed in blogs or websites: http://www.bubbl.us

c. **Tech-Literacy strategies**: Students should be able to fully document the process, stages of their thinking, ideas and the rationale for certain decisions taken. This is to showcase their individual

- ability to think independently, work collaboratively, solve given problem, find information, validate that information, synthesis it, leverage it, understand the context, and to be creative.
- awareness for sustainability, environmental and ethical issues and that they are responsible in their decision making.
- evaluation of the requirements of the stakeholders and their validation of prototypes

d. **Jargon**: *mock-up model, prototype, stakeholders, attributes, specifications, framing, angle of view, rule of thirds, close-ups, tone and sharpness, arrangement, emphasis, balance*

Safety issues

a. **ICT Policy:** At the beginning of the school year, students and their parents sign a policy document which is aimed to promote good digital citizenship and to help students feel ownership of the technology and tools they use. However, it is important to discuss with students
- appropriate use of the Internet and technology tools (cyber-safety) and
- their understanding of various misuse scenarios to determine consequences
- a class policy to protect the rights and privileges of fellow students and class hardware/software and
- rules for good team dynamics and peer critiques.

b. **Content validity**: As students research content online, it is important that they continually consider and evaluate content bias, currency, and source, corroborating the information with multiple sources.

c. **Copyright**: It is also important to emphasise the need to gain permission to use graphics and images produced by others and to copyright their own original work.

d. **Journalistic code of ethics**: As students begin to interpret and inform by using various graphics and print media, they have a responsibility to their audiences to convey the truth. It is, therefore, important to
- remind students of the persuasive power they have when using these digital tools and communication methods.
- urge them to always consider the code of ethics when building their communications: truth, accountability, fairness, and protecting sources.

Technological practice			
Achievement Objectives	**Learning Intentions**	**Learning Experiences**	**Support Materials**

TP 5.1 – Planning for practice **Week 1 (3 Lessons)**	Students will analyse their own and others' planning practices to inform the selection and use of planning tools. Use these to support and justify planning decisions (including those relating to the management of resources) that will see the development of an outcome through to completion.	Students will
		1. understand how to use a mindmap
		  • Brain storm ideas relating to the theme; create a mind map about themselves.
		  • Create a timeline/flow chart of significant moments, experiences in their life to date
		  • Create a mindmap based on this significant moment to plan a brief presentation or a short write-up
		2. identify prior knowledge
		  • share what it means by *Framing, Emphasis, Angle of view, Balance, Close-ups* in taking photographs
		  • Answer design questions such as: what's *Contrast, Repetition, Alignment* & *Proximity*?
		3. explore a range of images considering their attributes for the final selection.
		4. identify and record key stages, actions to be undertaken through to completion
		5. manages resources: time, materials etc
		  • Identify progress review points in the planning
		  • Provide justification for planning decisions
		  • Plan manages access to stakeholders
		  • Explore the way design trends affect our decisions.
		  • Identify a stakeholder and prepare conceptual statement
			• Explain mindmapping or show a video at http://www.imindmap.com/videos/rules%20of%20MM.aspx
			• Provide planning tools or templates and support student analysis in order to select tools.
			  a. Webspiration - An online version available at http://www.mywebspiration.com
			  b. CmapTools - A Freeware program for Windows available at http://cmap.ihmc.us
			  c. Bubbl.us - A free concept mapping site to create colourful mind maps online, share and work with others and embed in blogs or websites: http://www.bubbl.us
			• Discuss design principles as a reminder (e.g. a PowerPoint presentation) – Appendix B
			• Discuss how the use of colour can impact on a technological outcome.
			• Provide templates for managing resources: time, materials, equipment, access to stakeholders

	Assessment: Diagnostic: What do they know? What can they do? Students have produced a diagram (flow chart) that clearly identified the different stages; identified and selected appropriate images to complete the design of a collage		

TP 5.2 - Brief development
 	
Week 1 (2 Lessons)
	Students will justify the nature of an intended outcome in relation to the need or opportunity. Describe specifications that reflect key stakeholder feedback and that will inform the development of an outcome and its evaluation.	Students will
		1. Identify and record what is to be done: What is the product/objects purpose?
		   • Justifies the nature of the outcome and why it should be developed
		2. Analyse the features (visual and verbal) of existing collages
		3. Identify and record features that could be included in their collage
		4. Analyse a range of existing briefs to identify:
		   • Conceptual statements
		   • Specification including those that are measureable (objective) and attributes (subjective)
		   • Resources & Constraints
		5. Complete a personal profile detailing favourite colours, themes, stakeholders etc.
		   • Specifications informed by stakeholder feedback
		   • Describe specifications to allow the fitness of purpose of outcome to be evaluated
		   • Describe physical and functional requirements.
		   • Develop plan identifying key stages and resources required to make a collage
		6. Develop drawings & designs etc and write an initial brief.
			• Link students back to timelines/significant moment.
			• Discuss who are the key stakeholders (e.g. other students), and others who may be interested in the collage (e.g. other family members).
			• Introduce glossary definition of stakeholder refer to: http://www.adobepress.com/articles/article.asp?p=438833
			• Provide students with a template to discuss performance properties (subjective; people's perception (looks attractive) and objective (size): fit for purpose.
			• Relevant Books, journals, connect series video's etc
			• Provide appropriate context and issue to allow stakeholder feedback: Have expert visit e.g. Product designer or visit to a visual art studies dept or a studio.
			• Brief development & further planning resources: http://www.techlink.org.nz/curriculum-support/papers/practice/brief-dev/page6.htm

	Assessment - Formative: Individual and group feedback & feed-forward - What are they learning? What do they need to learn? Students have documented the nature of their collage design and their choice of images describing them in relationship to their performance attributes		

		Students will	
TP 5.3 - Outcome development and evaluation **Week 3 (5 Lessons)**	Students will analyse their own and others' outcomes to inform the development of ideas for feasible outcomes. Undertake ongoing functional modelling and evaluation that takes account of key stakeholder feedback and trialling in the physical and social environments. Use the information gained to select and develop the outcome that best addresses the specifications. Evaluate the final outcome's fitness for purpose against the brief.	1. sketch possible designs for collage to specify its functional features 2. evaluate suitability of images based on their properties, select appropriate ones for use in the production of a feasible outcome. 3. develop knowledge and skills of photo-editing software, and competent usage progressively develop collage • Navigating images: for rotating the canvas, or panning and zooming. • Assessing colour: to determine whether or not to adjust colour (levels, curves, and brightness) in a photograph. • Retouching: to remove unwanted elements, touch up selected areas, or remove red eye etc. • Selecting: to select a certain element of an image to copy and paste into a collage or even to correct a blemish • Cropping and straightening: to remove unwanted elements of a photograph. • Resizing: to adjust the size of the image. • Resolution: to prepare the collage for printing (minimum for printing for 8x10 is 1600x1200 pixels). • Combining images: to create panoramic images. • Transforming photos: to scale, rotate, or skew a selection	• Ensure brief with specifications allow outcome to be developed • Techniques for creating photo collages in Photoshop: www.adobepress.com/articles/article.asp?p=438833 • Provide opportunities to develop 2D &3D drawing and modelling skills to communicate and explore design ideas (e.g. a PPT or some exemplars). • Guide students to evaluate their outcome against the brief • Tips for working with layers in Photoshop when creating collages: www.creativepro.com/story/feature/17023.html?origin=story. • Provide following materials/components to develop the necessary knowledge and skills *Photoshop guide:* How to correct colour *Photoshop guide:* How to retouch photos *Photoshop guide:* How to generate different file formats *Photoshop guide:* How to resize and crop images *Photoshop guide:* How to use selection tools *Photoshop guide*: Combining images in Photoshop

		4. discuss the functional model form (i.e. oral, physical and visual) and purpose (i.e. to test stakeholder acceptance) of the physical and functional features.
		5. Reflect on types of functional modelling undertaken to date (eg: interviewing stakeholders.)
		6. Use information to select, justify and develop a final outcome that addresses specifications.
		7. Produce and trial a prototype of the outcome
		8. Evaluate fitness for purpose of final outcome against brief specifications.
		9. construct their conceptual design into a final prototype
		10. evaluate the fitness for purpose of the final outcome (prototype) against their final brief including feedback from stakeholders
		11. Reflect on planning process evaluate their goals, match their timelines/significant moment (if selected) to classmates/peers.
		    • What have I found easy?
		    • What have I found difficult?
		    • How would I like my teacher to help me?
		    • Next step?
			• Final Brief handout
			
			• Collage evaluation handout

Assessment

- Diagnostic: Informal knowledge gained through interactions with students, individually, group and class
- Formative: Students have discussed their product in relationship to their stakeholder feedback and are able to evaluate it s fitness for purpose against the final brief.